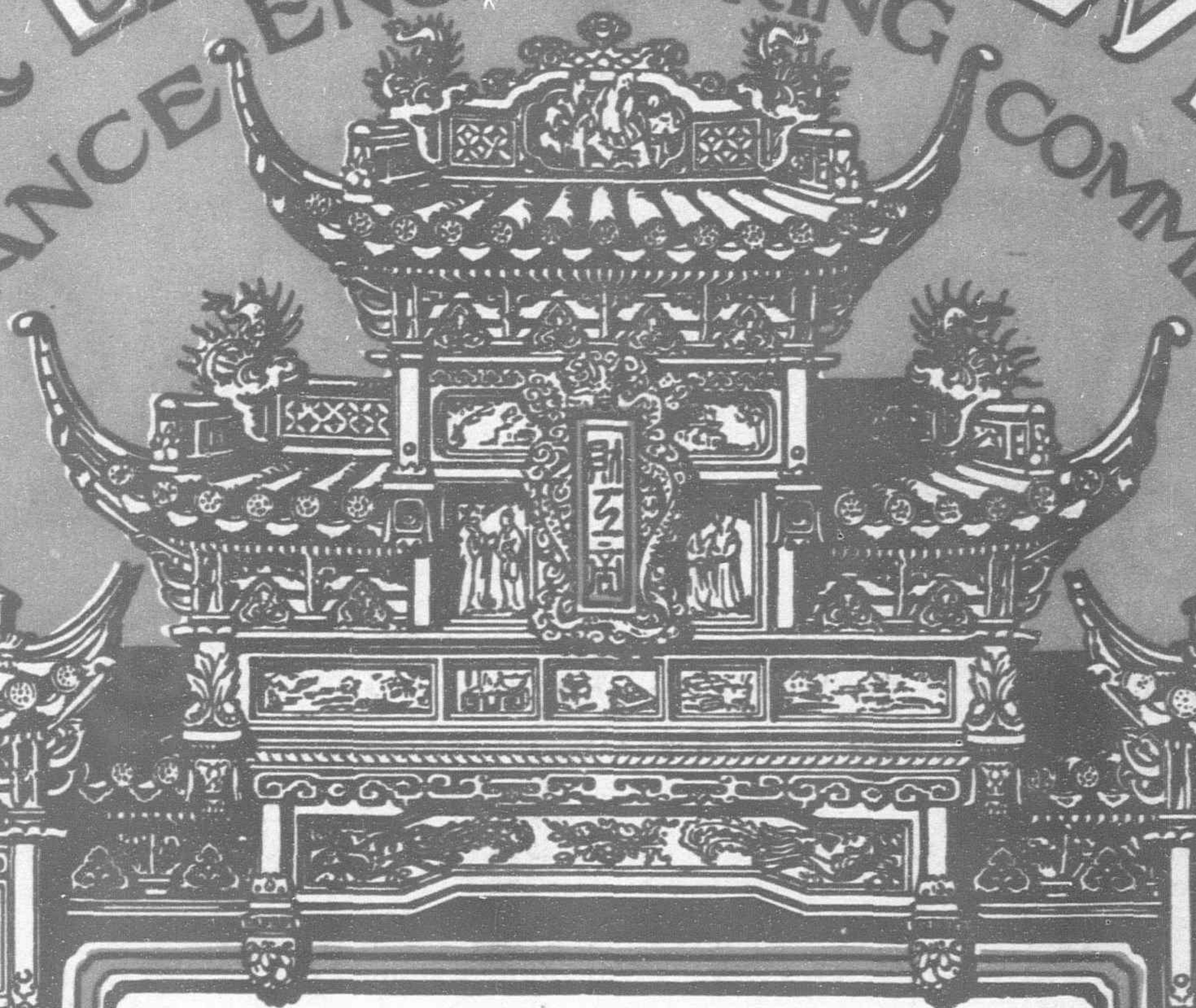


YALE UNIVERSITY
MAY 23 1928

THE

FAR EASTERN REVIEW

FINANCE ENGINEERING COMMERCE



TWENTY-FIVE YEARS

SLIPPERY DIPLOMACY

AMERICA'S FAR EASTERN
POLICIES

MR. MACMURRAY'S BRILLIANT
VICTORY

HUMANITARIAN INTERVEN-
TION

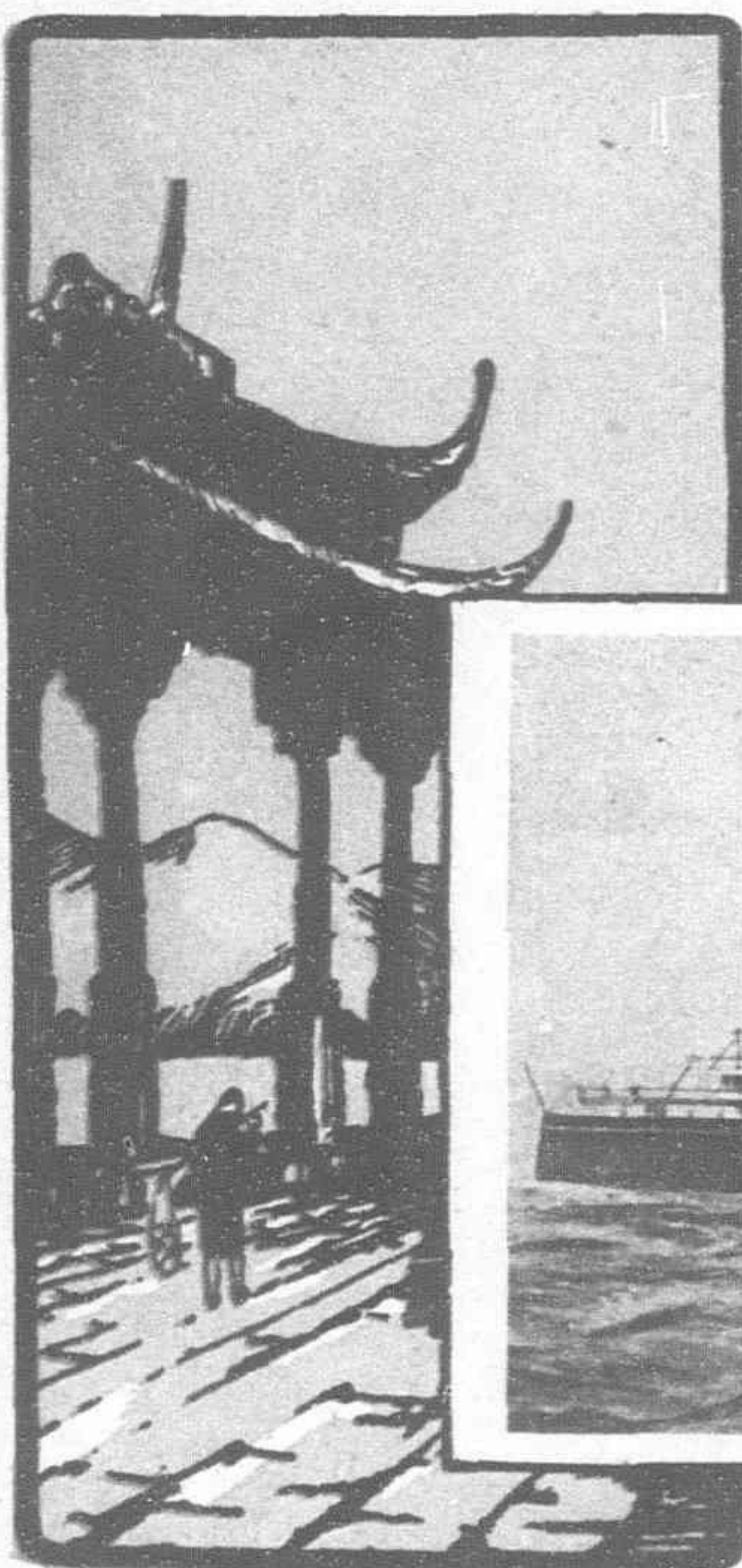
上海仁記路拾六號

遠東時報

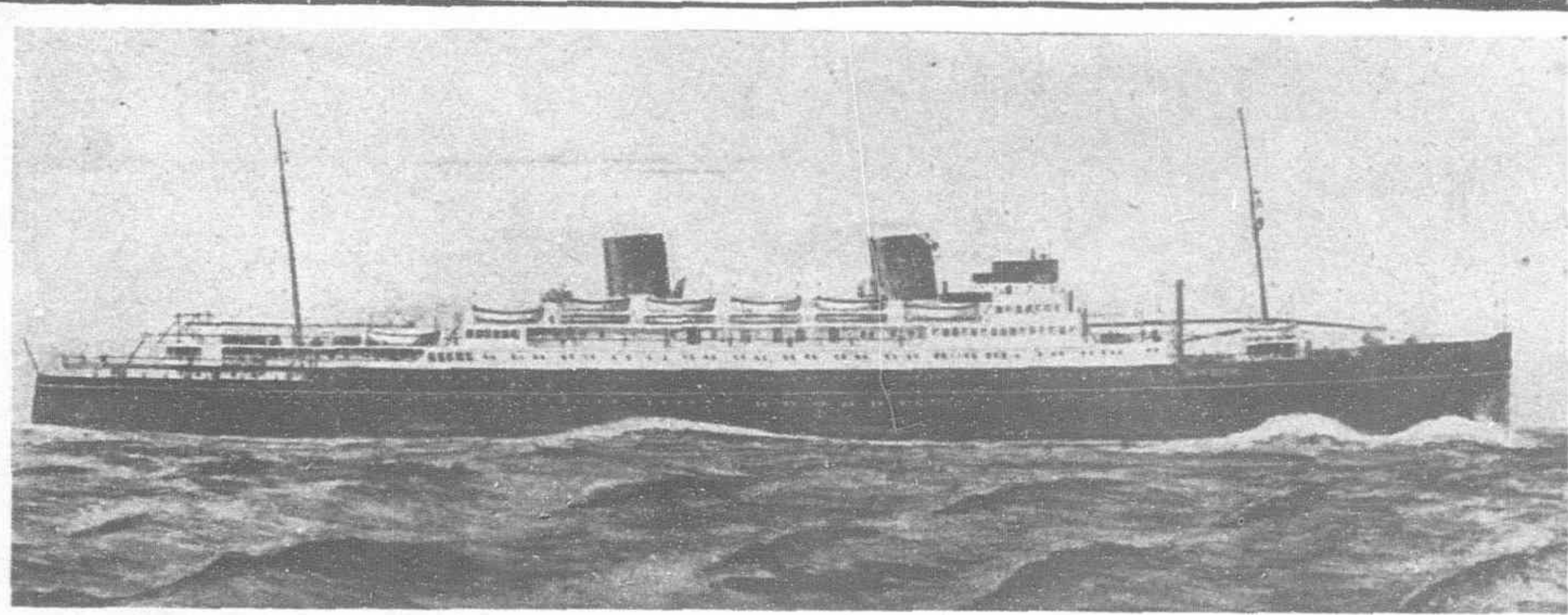
Vol. XXIV

April, 1928

No. 4



New Era Dawning in Trans-Pacific Travel



One of the Transcendent Trans-Pacific Trio ordered by the N. Y. K. Line to be commissioned in their Orient-California Fortnightly Service in 1929.

Details of the Transcendent Trio:

Quadruple Screw Motor-driven Passenger Liners.

Tonnage	...	...	...	...	...	16,500 gross tons, 22,000 displacement tons
Length	...	...	...	...	...	560 feet
Speed	...	...	...	...	...	19 knots

These vessels will embody the highest ideal of a passenger carrier and are expected to revolutionize the passenger traffic on the Pacific.

Principal Passenger Services in operation:—

To North America

Orient—California, Fortnightly Service.
Orient—Seattle Service, Fortnightly Sailings.

To South America

Orient—South American West Coast Service, approx. Monthly Sailing.
Orient—South American East Coast Service, approx. Monthly Service.

To Europe

Japan—Europe Fortnightly Service.

To Australia

Japan—Australia Monthly Service.

To Bombay

Japan—Bombay Monthly Service.

To Japan

China—Japan Rapid Express Service, sailings every four days.
Tsingtao—Japan semi-monthly Service, etc., etc.

For information, please apply to

Shanghai
31 The Bund

Tsingtao
20 Kuan Tau
Road

Tientsin
K. Y. K. Line,
French Concession

Hongkong
King's Building,
8, Connaught Road

N. Y. K. LINE

Head Office: Yusen Building, Tokyo

The Far Eastern Review

ENGINEERING

FINANCE

COMMERCE

VOL. XXIV

SHANGHAI, APRIL, 1928

No. 4

Twenty-Five Years

The Americanism of The "Far Eastern Review"

Its Fight for China's Sovereignty and Fair Play for Japan

Its Ownership and Policies

By Geo. Bronson Rea

THERE is only one publication in Shanghai exclusively owned and edited by Americans. That publication is THE FAR EASTERN REVIEW. Since its start in Manila in 1904, with the encouragement of the Philippine Commission, its support has been derived from the engineering, commercial and financial firms of all nations doing business in the Far East. Owing to the insignificant volume of American investments in China, the small number of American firms and the indifference of the average American manufacturer towards foreign trade, it is impossible successfully to conduct an American publication in China on purely American support. The Chinese merchant or manufacturer does not advertise and only a very limited number of educated Chinese subscribe to foreign language publications. To succeed as a business venture, an American publication must rely on the firms of all nations for its advertising revenues and good-will and, in view of the constant clashes of national interests, it must be editorially impartial and independent in its opinions. Several Americans have started newspapers in China and ignored this fundamental principle of success. Their wrecks are strung along the China Coast from Peking to Canton. The FAR EASTERN REVIEW early recognized this essential fact and has endeavored by fair-play to gain the good-will and esteem of the whole community. That we have survived over a period now approaching twenty five-years, while our many competitors have gone on the rocks, is a testimonial to the soundness of our policy. No unsubsidized newspaper, no matter what its nationality, can exist in China without the friendly support and good-will of the British commercial community and, to an increasing extent, the Japanese. To succeed as a business proposition, these interests must be conceded fair-play by any American newspaper which hopes to survive and carry on.

The ownership and control of THE FAR EASTERN REVIEW has always remained in the hands of its original American founder. It has no shares, bonds, outstanding indebtedness or obligations that would give to any one the right to dictate its editorial policy. Its revenues are derived exclusively from subscriptions and legitimate advertising. It has never in its twenty-five years of activity borrowed or been accommodated with an overdraft from any bank. THE FAR EASTERN REVIEW carries no propaganda for any nation, government, private interest, special cause, political party or faction. It is absolutely independent. It presents the facts and draws its own conclusions from the facts. Sometimes the truth is hidden from us and our conclusions may not always be right, but they are honest and, when new facts or evidence comes to light, we are always ready to revise our viewpoint.

As regards our Japanese business. It is legitimate; obtained in the same legitimate manner as all newspapers obtain their advertising. Japanese trade predominates in China and there is

every good reason why their firms and manufacturers should keep their names before that field. It has been the policy of THE FAR EASTERN REVIEW to solicit its share of this business in the same manner that it maintains advertising representatives in New York, London and Berlin. Our Japanese business implies no surrender of our editorial independence or subserviency to any official or semi-official bureau or enterprise. THE FAR EASTERN REVIEW carries no Japanese propaganda as such. At all times its editorial views are its own.

Our "Japanese Propaganda"

Japan desires peace and co-operation with the United States; she hopes for a better understanding with China. Japan's policy towards China is dictated by her desire to maintain peace in the Orient in harmonious co-operation with the other interested Powers, while respecting with all sincerity the just aspirations of the Chinese people. The situation in the Orient is identical with the one that exists between the United States and Mexico. There is constant friction and misunderstandings that can be settled only by patience and forbearance on both sides. Japan has taken no advantage of China's weakened condition to press her claims, being content to wait until such time as China has a government with which she can negotiate. In the meantime, she intends to protect Japanese lives and properties in China and to insist upon the observation of existing treaties until new ones can take their place. There is no difference between the policy of Japan in China and that of the United States. In fact, there is a great similarity in the problems which confront both countries in their respective spheres. Every move that Japan makes in China is interpreted as an act of aggression, a proof of her imperialism. Every move the United States makes in Mexico and the Caribbean is similarly stigmatized as proof that the "Colossus of the North" is on conquest bent. All the diplomacy and statesmanship of our President, Secretary of State and other spokesmen for the nation, cannot altogether dispel from the minds of Latin Americans the suspicions aroused by foreign propaganda as to our motives. The pleas of President Coolidge for a patriotic press has a direct reference to this situation. Japan is in the same position in China. Her facilities for propaganda are limited compared with the world-wide publicity extended to any utterance of the American President or Secretary of State. Japan is handicapped because of the fact that foreign publicity agents in the employ of the Chinese justify their usefulness by concentrating their venom on Japan in order to create a public opinion in the United States hostile to that country and to further the traditional Chinese policy of playing one foreigner against the other. Japan is not always right. Neither is she always wrong.

Japan has as good a case in China as the United States has in the Caribbean and with all due fairness to China, we believe it our duty as a neutral publication to emphasize both sides of the argument.

Facing A Show-Down in Manchuria

In presenting what we consider is a common-sense interpretation of Japan's position, we hold no illusions about the future. With a deep insight into the problems which confront Japan in working out her destiny along peaceful lines, we can see how the march of events will again create a situation where all the good-will and peaceful intentions in the world will not avert a crisis in the peace of the Far East. The situation in Manchuria is loaded with dynamite. Japan cannot escape a show-down as long as China and Russia adhere to their present programs.

The Japanese claim that Manchuria is not a part of China. The facts of history bear them out. There may be other considerations which nullify or modify the Japanese contention, but whatever they are, they open up a fair argument. If Japan claims that Manchuria is not a part of China Proper and the Chinese insist that it is, we have all the elements of a first class diplomatic wrangle that may lead to serious complications. Japan has fought two wars over Manchuria. She may be compelled to fight a third. She may be right or she may be wrong, but whether right or wrong, the world is entitled to hear both sides of the case. We are interested in this problem from a purely American standpoint, for if another war is fought in the Far East, the United States will again become a battle ground for the propagandists of both sides. A determined attempt will be made to align us on the side of China, even to the extent of fighting her battles. It has been tried once. It will be tried again. In our opinion, the United States is not concerned as to which nation rules Manchuria. The problems there are not of our making. They do not menace the peace or the security of our country. The issue is one between China, Japan and Russia; one that we will do well to keep out of, even as a peacemaker.

Versailles and Portsmouth

New evidence is now before the world that in due course of time must compel a revision of the Versailles Treaty and absolve Germany of having willed and precipitated the Great War. The evidence as presented by a score or more of brilliant and impartial investigators and reviewed by Senator Robert L. Owen in "The Russian Imperial Conspiracy, 1892-1914," proves conclusively that this crime against civilization was plotted in St. Petersburg under the terms of the secret clauses of the French alliance.

The evidence stands in the record that Russia's secret treaty of alliance with China in 1896 aimed at Japan, forced the Russo-Japanese War. Owing to the profound secrecy surrounding the existence of this pact, Japan fought one of the bloodiest wars of modern times in complete ignorance of its provisions and was de-

frauded of a legitimate indemnity from China at the Portsmouth Peace Conference. Fifteen years later, China officially confessed her part in the alliance and filed the text of the secret treaty with the Washington Conference.

A veritable army of investigators has been at work for the past ten years and a library of books has been written on the origins of the Great War. What is the object of all this research? All the world believed Germany guilty of forcing the war and when the Treaty of Versailles was written in June 1919, the German Government was compelled by military force to confess that Germany had imposed the war on the Allies. It is now proved by secret state documents that such a confession so extorted has in history no equal in the magnitude of its injustice, and in order to bring the world back to understanding, truth and good-will, it is essential that this confession of guilt should be removed. The ultimate object of this painstaking research is the revision of the Versailles Treaty and the meting out of justice that will restore a lasting peace to Europe.

We see no difference between the Treaty of Versailles and the Treaty of Portsmouth. Both were negotiated without a full knowledge of the facts. If impartial investigators of all nationalities now coincide that the secret treaty of alliance of 1892 between France and Russia is responsible for the Great War and this evidence is being used to prepare public opinion for a reversal of the Versailles verdict, then the same principle must apply to the secret treaty of alliance of 1896 between China and Russia which forced the war upon Japan. If new evidence that harks back to 1892 can be employed to bring about the reversal of a verdict where the interests of European peace are concerned, then new evidence which goes back to 1896 must equally be considered in order that justice be done to Japan, who paid the price of secret Russo-Chinese diplomacy in 1904 and was denied the legitimate and just fruits of her victory.

THE FAR EASTERN REVIEW stands almost alone in its championship of Japan's cause, not because it has any connection with Japanese propaganda, but because it believes in justice, fairness and recognition of the facts. To date, no Japanese statesman or

publicist has invited attention to the bearing of this new evidence on their position in Manchuria. THE FAR EASTERN REVIEW stands on its own interpretation of the importance of this secret treaty.

The Peace of the Far East

Ever since the Chinese confessed their part in the secret alliance with Russia, we have maintained that no statute of limitations exists to absolve a nation from the consequences of its acts. We are supported in our contention by a group of experts on international law whose researches into the inner secrets of European diplomacy conclusively prove that Russia is alone responsible for having willed the Great War. The happiness and future peace of the world require the reconciliation of the German and French peoples and this can be brought about only by reversing the verdict of Versailles. Some day, this revision will be made. In order to preserve the



Dr. Sun Yat-sen

peace of the Far East and bring about a reconciliation between the peoples of China and Japan, the same principle of justice must be extended to that part of the world through a revision of the Portsmouth Treaty based on the confession of China at Washington.

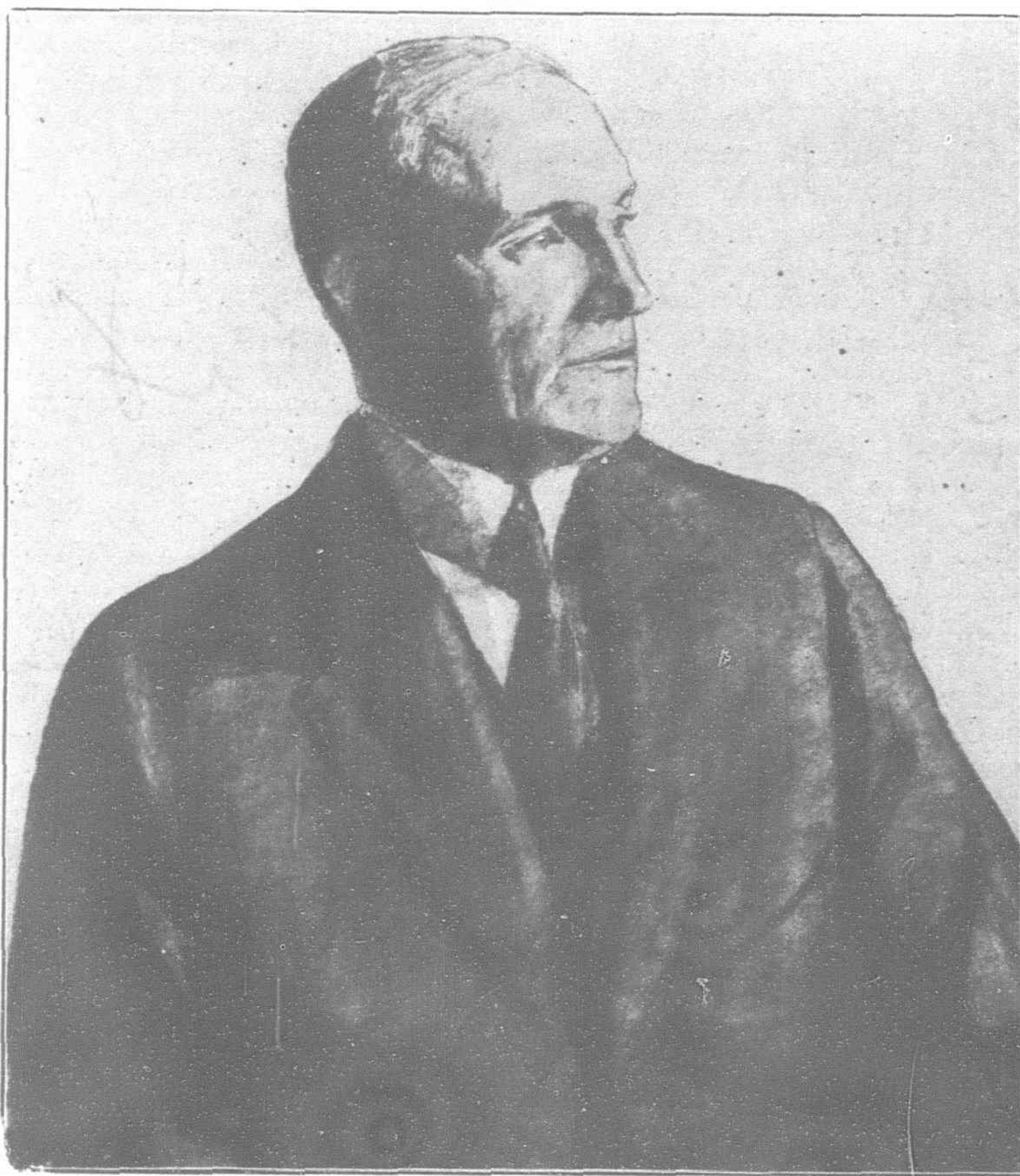
It is the duty of every American authority on Far Eastern affairs to help bring about this reconciliation. The proof that the secret Sino-Russian treaty of alliance of 1896 existed and accomplished its purpose, stands in the record, yet practically every American writer on Far Eastern affairs declines to admit its existence or comment on it. This attempt to mislead the public can be explained only on the hypothesis that if the truth becomes generally known it must compel a revision of modern Far Eastern history and a reversal of American public opinion towards Japan. *THE FAR EASTERN REVIEW* rejects the right of any of these anti-Japanese writers to act as the judge in such a vital matter. The evidence is before them. To ignore it altogether, to attempt to conceal it or to minimize its importance, is proof of bias in favor of China.

The peace of the Far East hinges on an amicable solution of the Manchurian problem. Japan will fight to defend her rights in that territory. These rights, acquired through great sacrifices, are vital to her continued existence as an independent nation. China seems intent upon forcing the issue and some fine morning the cables will announce that the patience of Japan has become exhausted and she has taken the necessary steps to safeguard her position. In the welter of propaganda that will be injected into the controversy, it is well that the American people should know all sides of the dispute.

The Evils of Secret Diplomacy

The evidence that Imperial Russia was secretly responsible for the World War stands in the records. The proofs are before the world that a similar secret understanding existed last year between Moscow and Canton for the purpose of precipitating another world catastrophe. Over a period of three decades the American people have been systematically misled by foreign propaganda and although we now have our own correspondents in most of the world capitals, they are too often influenced by their environment. We are told at this late date that the British Government spent nearly \$500,000,000 during the war for propaganda purposes, mainly in the United States; "the best investment Great Britain ever made." Yet we fought the war and went to Versailles in complete ignorance of the secret treaties disposing of other peoples territories. We are now told in so many words by European propaganda that it was "our war," that we were late coming in and are not entitled to repayment of the war-debts. Before we are through with it, the American people may have to shoulder the burden of paying for the Great War as the only way to preserve the future peace of the world. No sooner had the Treaty of Versailles been signed, when another whirlwind campaign of propaganda had the American people ready to wipe Japan off the map out of a mistaken sympathy for China. Americans were lulled into a sense of false security last year by skilled propagandists at a time when the Sovietized armies of Canton were preparing to drive all foreigners out of China, seize the Treaty Ports and convert Shanghai into the Far Eastern capital of World Revolution. If we go back twenty years, we will recall also how American opinion was misled during the Russo-Japanese war.

All our sympathy was for "poor, defenseless, old China," who came out of the struggle as the innocent and injured victim and by a clever piece of concession and loan diplomacy induced our State Department to stand as her champion in Manchuria as against Japan. We carried the brunt of China's fight down to the creation of the new Consortium, insisting with the full force of our diplomacy and finance on the pooling of the Taonan-Jehol railway concession in the new combination, thus depriving Japan of her one line of defense against the "menace from the direction of Urga." In the event of a further struggle over Japan's rights and position in Manchuria, Americans will again be told that it is our war; that we must fight to defend the Open Door and the integrity of China; that we are in honor obligated to ally ourselves with China against Japan. *THE FAR EASTERN REVIEW*, as the representative American publication in this part of the world, holds it a duty to shed all the light possible on these problems, so that the American people and our Government will understand them better when they become acute. This may be Japanese propaganda, or even Chinese, but it is also sound journalism and good Americanism.



Mr. George Bronson Rea

Our Fight for China

As to our policy towards China, *THE FAR EASTERN REVIEW* does not champion at all times the cause of China as it did in the past, simply because until China is united, it has no cause to defend. We have not swerved in our sympathy for the Chinese people and whenever possible, even at the risk of inviting the hostility of powerful American and European interests, we have taken up the cudgels in their behalf. *THE FAR EASTERN REVIEW* is not interested in the fortunes of any particular Chinese war-lord or political party. As long as Dr. Sun Yat-sen lived, this publication sympathized with and defended him against his traducers, because although we recognized his shortcomings, we knew him as that rarity in official China, an honest man and a high-minded patriot. Our sympathies are now with any faction that will give to the long-suffering and harassed Chinese people an honest, decent government and raise the nation once more to her proper place in world affairs. As long as we could, we gave our

loyal co-operation and support, our personal time and intelligence to a solution of China's problems, not for money, position, or hope of any special reward, but because she had a good case.

The First American Group

The Publisher of *THE FAR EASTERN REVIEW* early sensed the importance of organizing an American financial group for developing China and interested one of the most prominent American banking firms in New York in his ideas. This firm, William Salomon & Company, (now amalgamated with Blair & Company,) after several months labor had completed the organization of its group, when the State Department announced the formation of the American Group with its exclusive support for operation in China. Despite this blow to his work, the Publisher of *THE FAR EASTERN REVIEW*, put his shoulder to the wheel to advance American interests under the new program.

A Fight for A Principle

For fifteen years we carried the brunt of the struggle to regain for China the control over her railway system through breaking the

monopoly of the official financial groups and eliminating the spheres of interest delimited by their railway concessions. Because of our grasp on these problems, we enjoyed the full confidence of Dr. Sun Yat-sen and the government of Yuan Shih-kai and when entrusted by them with official missions, secured for China terms and conditions for railway financing and construction, lower and more favorable than ever before or since conceded by international finance to a foreign nation. As adviser to Dr. Sun Yat-sen and holding his power-of-attorney, the Publisher of THE FAR EASTERN REVIEW obtained the support of the European financial groups to his revised national railway scheme, but carried the proposition to the United States in order that the American Group would have the prestige of signing the preliminary agreement. The withdrawal of official support from the American Group by President Wilson effectively killed this Chinese plan for nationalizing their railways and eliminating spheres of interest. No amount of persuasion would induce President Wilson or Secretary of State Bryan to reconsider their decision in order that American capital could participate in Chinese railway construction with the other groups. The American bankers refused to interest themselves in Chinese railway financing until the Administration invited them to do so. The interests of China were sacrificed to Wilson's hostility to Wall Street.

Again, the Publisher of THE FAR EASTERN REVIEW, drew up a new system of national railways for the Chinese Government which was awarded the grand prize in a competition entered into by engineers of all nationalities in China, and he was then entrusted by Yuan Shih-kai with the mission of organizing an international company for its financing and construction. Within three months, the company was formed in Paris, but when the American participant submitted the scheme to the State Department, Secretary Bryan refused support to it, claiming that it constituted a monopoly in violation of the treaties. Privately, the American contractors were informed that it was not so much the monopoly which met with the opposition of the State Department as it was the idea of American capital co-operating with other nations in the development of China! Once again the attitude of the State Department effectively killed a perfectly legitimate Chinese scheme to create a national system of railways and eliminate foreign spheres of interest.

Not only did we break down the long established official monopoly and create new precedents for Chinese railway financing and construction by providing for Chinese participation in the construction profits, but we even secured for a Chinese Bank the privilege of participating in the flotation of loans aggregating \$500,000,000, on equal terms with the foreign banking syndicate, a recognition never before or since extended by international finance to a borrowing government. We went even further and through Mr. W. H. Donald, the Editor of THE FAR EASTERN REVIEW, were instrumental in placing a Chinese loan in the United States, (the Lee, Higgonson loan) secured on the general revenues and good-faith of the Chinese Government without specifying its use or providing for supervision over its expenditures. After the initial payment of \$1,000,000 was made, the American Minister at Peking, for reasons which seemed legitimate, protested against any further advances to China. We fought to establish a principle and in doing so elevated China to a position in world finance consistent with her then recognized credit and stability. The labors of THE FAR EASTERN REVIEW and its Publisher in advancing the real interests of China have been surpassed by few other foreigners employed by the Chinese since their government entered into relations with the outside world. The record stands. It is clean and honorable, a credit to China and to every American in China.

The Twenty-one Demands

The Publisher of THE FAR EASTERN REVIEW championed the cause of China at the time of the Twenty-one Demands and carried the fight to Washington as the unofficial agent of the Chinese Government. We were largely instrumental in influencing the American Government to take the position that it would not recognize any impairment of the existing treaties undermining the sovereignty of China or the Open Door Doctrine. Practically every important argument against these Demands was drawn up by the Publisher of THE FAR EASTERN REVIEW and his associate in Peking. We argued on the facts as we knew them, as they were told to us by the highest officials of the Chinese Government. If our views have since changed it is because we now realize that we were imposed upon, that the full truth was withheld from us. Not

once, but several times before the death of Dr. Sun Yat-sen, he personally declared to the Publisher of this magazine that the Twenty-one Demands were a put-up job, the price that Yuan Shih-kai was willing to pay Japan for recognizing him as Emperor. Dr. Sun even went so far as to assert that the Demands were drawn up by Yuan himself, and to save his face with the Chinese people, insisted that Japan present an ultimatum. Dr. Sun's statement was corroborated in part by Viscount Kato, who said that the ultimatum was invited by Yuan himself; that Japan was pressed to take this step to save his face. Yet the Chinese observe May 7, the date the ultimatum was presented, as a National Humiliation Day. The leaders of Chinese public opinion are acquainted with these facts, yet dare not confess the truth to the public. Until the full facts surrounding the inception, presentation and carrying out of the Twenty-one Demands are disclosed by someone who knows the truth, this publication reserves its final judgment over a characteristic piece of Oriental secret diplomacy, designed to hood-wink the Chinese people and the outside world.

A Sordid Betrayal of China

In 1916, the Publisher of THE FAR EASTERN REVIEW became convinced that the Peking Government had deliberately departed from its past program by creating a situation in the Siems-Carey railway contracts, coldly calculated to embroil the United States over the Open Door Doctrine with the Four Allies when they were fighting for their existence in Europe. Not only did he consider that contract a wilful incitement to international discord and strife, but in his mature judgment, it constituted a rank betrayal of the highest interests of the Chinese people. By reason of China's other railway commitments, the provisions of that contract automatically extended foreign participation in the profits and management, to every foreign loan-built railway in China, after the Chinese Government had struggled against heavy odds for fifteen years and expended over \$15,000,000 to recover full control and direction over its railway system. Its execution would have precipitated another revolution in China. With all due deference to the legitimacy of the contract from the American contractors point of view, THE FAR EASTERN REVIEW contends that when studied in the light of China's other railway agreements, the Siems-Carey contract resolves itself into the most cynical and sordid exploitation of China recorded in the past twenty-five years. As a purely business proposition the contract was a triumph for the American negotiators. From the Chinese standpoint, it was a crime against the highest interests of the nation, calling for the immediate impeachment of the Chinese officials who betrayed their trust. Although deeply sympathetic with the Chinese cause, the Publisher of THE FAR EASTERN REVIEW could not lend his support to a contract so openly and confessedly designed to compel the United States to uphold the Hay Doctrine by force of arms at such a time. It was impossible for him to fight further for a group of grafters and incompetents who betrayed their country's highest interests by undoing in one contract all that previous cabinets and their foreign friends and advisers had accomplished in recovering China's sovereign rights over her transportation system. We broke with our Chinese friends then and, when we saw that the interested American financiers intended to carry through the contract without reference to its bearing on China's welfare, we parted company with life-long friends, entered the American army and remained away from China for four years. For three years, the Siems-Carey Company endeavored to build a railway in China, but at every turn was blocked by the protests of Powers whose prior rights were infringed. There was no place in the whole of China where American capital could build a railway and the truth was finally borne home to the American authorities that only through co-operation with the other Powers could we participate in the development of China. President Wilson, who had withdrawn official support from the American Group at the very outset of his administration, was compelled to reverse his decision and invite international co-operation as the only solution to the problem. Even then, the truth was concealed from the American public who were told that the new Consortium was designed to save China from Japan! Japan was made the scapegoat for our own mistakes.

Siems-Carey and Nishihara Deals

The same crew of Chinese official grafters who betrayed their country's rights under the terms of the Siems-Carey agreement,

subsequently entered into similar contracts with Japan. Over two hundred millions of Japanese money went into the pockets of the Peking militarists during the war, and although some of these loans were open to criticism, the majority were legitimate enough, when compared with other Chinese transactions. In the wave of anti-Japanese post-war agitation, these Japanese loans to Peking were denounced as illegal; both North and South repudiated them. To date not one cent of interest or principal has been paid and the Chinese insist they never will recognize them. The Japanese Government has been compelled to take the loans over from the banking syndicate and assume responsibility for their repayment.

THE FAR EASTERN REVIEW holds no brief for Japan in these matters, but with a full knowledge of all that had gone before, we contend that all the Japanese loans combined cannot equal in their far-reaching effects upon Chinese sovereignty, the one clause in the Siems-Carey contract reviving foreign participation in the profits and management of State-owned railways. This one clause extended to all other loan-built railways in China would have cost the Chinese people at least \$200,000,000 during the life of the loans. It is one of the reasons why THE FAR EASTERN REVIEW has refused to get excited over the so-called Nishihara loans. The precedent for this orgy of corruption on the part of the Chinese was clearly set when they betrayed their trust in the American railway agreement.

China's Sovereignty Saved by "Imperialism"

Now, it may be the duty of an American publication in China to support what on the surface appeared to be a legitimate American transaction. We, however, knew what it really meant to the Chinese people and did our best to protect them by carrying their case directly to the State Department and to the financiers interested. It is only fair to state that in this instance, the State Department had been maintained in profound ignorance of the terms of the preliminary contract and was only informed of its existence when the final terms were announced in Washington through the press. It was placed in a most difficult position and declined to walk into the trap set for it. The United States had just entered the war and nothing could be done to prevent the carrying out of the contract. Even the French protest against the Siems-Carey lines in Kwangsi, delivered two weeks after we entered the war, failed to arouse any interest. China was saved from the imposition of foreign participation in the profits and management of all her railways, by the "imperialism" of the European Powers who blocked at every turn the execution of the American contract. American writers whose ignorance of Chinese railway matters is their only excuse, point to this contract as a glaring example of how other Powers violated the Open Door principle. They are silent however on the effect of the terms of the contract upon China's sovereign rights. For years, THE FAR EASTERN REVIEW had fought to eliminate the spheres of interest through the construction of a national system of Chinese railways. He had no sympathy with these impairments of Chinese sovereignty, but he rejoiced to see that even this much condemned system had the power to save China from the treason of its own high officials.

The Last Nail

After the Armistice, the Publisher of THE FAR EASTERN REVIEW again made the effort to bring about international recognition of China's rights to design her own national system of railways and participate in their financing and construction. As Technical Adviser to the Chinese Peace Delegation at Paris, he drew up a scheme which met with the approval of all the Chinese delegates as coming nearest to their hopes and aspirations and submitted it to the new Consortium as a basis on which negotiations might be opened with the Chinese. The Chinese realized that they must deal with the Consortium but desired to save their face and national dignity by having a scheme prepared which they could accept on behalf of their country. The Chinese scheme was never considered. It was the last nail in the coffin of China's hopes. The Chinese Delegates then and there declared that their Government would never recognize the Consortium. The work of the Publisher of THE FAR EASTERN REVIEW in behalf of China's legitimate interests was finished. He could do no more. Had the Chinese railway plans been accepted by the Consortium at Paris, some way could have been found to start new construction and provide much

needed work for the masses. The process of disintegration which has brought China to complete ruin could have been forestalled.

Sun Yat-Sen's Faith in Our Labors

The work of THE FAR EASTERN REVIEW did not end there. When Dr. Sun Yat-sen was at the head of affairs in Canton in 1923, he again endeavored to interest foreign capital in building railways in the south and develop Canton into a deep water port. He succeeded in interesting the Northwestern Construction Company, the most important contracting concern in Western Canada, with headquarters in Vancouver. The vice-president of this company made a special visit to Canton for the purpose of entering into a contract for the financing and construction of a trunk railway from Canton to Chengtu with various branches that would have linked up all the southern and southwestern provinces of China in one complete transportation system with Canton as the deep-water terminal. For more than two months, the legal and other advisers of the Canton Government negotiated with the Canadian engineer without arriving at any agreement consistent with China's ideals of sovereignty. At this juncture, Dr. Sun Yat-sen invited the Publisher of THE FAR EASTERN REVIEW to visit him, and when he arrived, explained his dilemma and left the matter in his hands. Within six days a contract was drawn up satisfactory to both sides. Dr. Sun even desired to tie-up his government with the same company for the development of the port of Canton, but accepted the advice of his friend to let that wait until studies and investigations had been completed by some competent engineer who could then estimate its cost and invite tenders on some definite scheme. In this instance, as in all other Chinese development plans entrusted to him for negotiation, the Publisher of THE FAR EASTERN REVIEW secured for China terms and conditions consistent with her sovereignty and comparing favorably with the lowest financial terms on record for such contracts. The Publisher of THE FAR EASTERN REVIEW cherishes the remembrance of this mark of trust and confidence on the part of Dr. Sun Yat-sen in the last year of his life as one of the outstanding features of a life time devoted to China's interests.

The Great Pacific War Conspiracy

Events during the progress of the Peace Conference at Paris, convinced the Publisher of THE FAR EASTERN REVIEW that the Chinese, urged forward by their American and British advisers, were again seeking to compel the United States to stand as their champion against Japan. When the proofs of what almost constituted a conspiracy to bring about hostilities were in his possession, the Publisher of THE FAR EASTERN REVIEW opposed the movement and advocated peace and co-operation. For taking this positive stand, this magazine was boycotted in China and a campaign started to ruin its Publisher and drive him from the country. In our mind there was no good reason why the manhood and youth of the United States should sacrifice themselves in a war with Japan in order to defend 400,000,000 sturdy pacifists who would not fight for themselves. There was no good reason why the American Government should interfere in matters which did not concern us, further than to protect our treaty rights in a country whose secret commitments constituted a constant menace to world peace. Those were our confirmed convictions in 1919. They have not changed.

In order to pave the way towards a better understanding, THE FAR EASTERN REVIEW has presented its own interpretation of Far Eastern problems. Never at any time in the past ten years has it received any suggestions from any one in Japan or requests to publish the Japanese side of the case. The only request that any of our Japanese friends has made, has been to solicit our support to make the Consortium a success, believing that co-operation between Japan and the United States through this instrument for financing China, would lead to bigger things for the development of China and the preservation of the Open Door. We have cheerfully lent our support to this purely American policy and contributed to bring about American co-operation in the development of Japanese industries and public works as the one guarantee to a lasting peace in the Pacific.

American-Japanese Co-operation Based on Open Door

Had the idea of American-Japanese co-operation in China been accepted and carried out when it was first broached by Japan, Far

Eastern history would have been written differently. For, the facts are now made known that when John Hay submitted his Open Door propositions to the various European Governments and before even his invitation reached Japan, that Government had made inquiries regarding the American proposals to the European Powers. Viscount Aoki, Japanese Minister for Foreign Affairs, promptly accepted Secretary Hay's proposals in a formal note to Minister Buck on December 26, 1899, and in the course of the negotiations at Tokyo, expressed a great desire that "American business men of capital should join with Japanese men of business in various enterprises in China and Korea." This fact, brought out by Alfred L. P. Dennis, in his recent book "Adventures in American Diplomacy," clearly indicates that the idea of American co-operation with Japan in the development of China and Korea was definitely based on the Open Door principle and, further, as Mr. Dennis points out, it was Japan alone who inquired of the United States as to the discrepancies to be observed in the replies of Germany, France and Russia to his notes, but Hay having secured enough for his immediate purposes by the notes received, had assumed a real acceptance by Russia and had decided to "let well enough alone." These new facts disclosed from State Department records indicate that the only nation, excluding Great Britain, which promptly and honorably accepted the Open Door doctrine and expressed a willingness to co-operate with American capital in the development of China under its provisions, was Japan.

The relations between Japan and the United States are now firmly established on a basis of mutual understanding and friendship. All this may be propaganda; call it anything you like. It was Truth and the Truth prevailed. If presenting the Japanese side of a controversy in order to combat a conspiracy to bring about war in the Pacific is Japanese propaganda, let it go at that.

Stealing China's Revenues

We adhere to our own definition of what constitutes loyalty to American traditions and ideals. We do not always support American policy, when, in our judgment, it is open to fair criticism. THE FAR EASTERN REVIEW declined to support the China Trade Act, because we believed it constituted an impairment of China's jurisdiction over her industrial enterprises and power of taxation. We sympathized with American traders in their dilemma, but remained steadfast in our belief that the practice of tax exemption if applied by all other Powers in China, would divert the wealth of the country into these foreign corporations over which the Chinese Government had no jurisdiction. Yet we witnessed the spectacle of many highly placed Chinese officials, including the Chinese Minister to Washington, applauding and working for the passage of a bill that struck at the very roots of China's fiscal independence. The representative of the American commercial community in China who lobbied the bill through Congress, now poses as the foremost American champion of China's sovereign rights and the Chinese see no inconsistency in his attitude. In our mind there was no difference between stealing a Chinese province and stealing the revenues of the nation. Our loyalty to American policies does not extend to a complete surrender of those basic principles on which our own national life is founded.

The Betrayal of Wilson

We have on several occasions expressed our candid opinion of the betrayal of President Wilson over the Shantung decision at Paris. Here again we differ with an overwhelming majority of our countrymen. American officials attached to the Peace Delegation at Paris had a right to their opinions and they did everything honorable and consistent with our duty towards China to defend her cause. The Chinese endeavored to convert the conference into a tribunal for the trial of Japan, but the main object of the conference was to establish a peace with Germany. Many sacrifices to principle had to be made to bring this about, and the cards were stacked against China. Our conception of Americanism was that all American officials attached to our Peace Delegation were obligated by every standard of honor and loyalty to stand by and support their Leader, the President of the United States in his final acceptance of the Shantung decision. There was no other way out for Wilson. He was reluctantly compelled to recognize the binding force of the secret treaties ceding the German rights in Shantung to Japan and accepted Japan's word of honor that she would restore

these rights to China. It was the only way to save the League which stood as the guarantor of Japan's good faith. The desertion of Wilson by his intimate friends and trusted lieutenants who perhaps unconsciously allowed themselves to be dragged along in a campaign led by a paid American emissary of the Chinese Government, stands as one of the most undignified episodes in American history. The Shantung debate undermined the Treaty, helped to keep the United States out of the League, broke Wilson's heart, shattered his health and sent him to an untimely grave.

No matter how much we disagreed with Wilson's policies; no matter how much we sympathized with China in her disappointment over the decision; the Publisher of THE FAR EASTERN REVIEW upheld the President of the United States in reposing faith in Japan's honor. When the paid agent of the Chinese Government departed from Paris for the publicly avowed purpose of "killing the treaty in the Senate" and immediately on his arrival in this country began to advocate war with Japan, we frankly took the other side of the dispute and denounced this intervention in American affairs by a foreign government. The ramifications of this conspiracy to railroad the United States into war with Japan were so wide-spread and deep-rooted that only a change in the administration in Washington saved the nation from a catastrophe that would have crippled us for another generation. The story of that conspiracy has never been told in full but enough has since come to light to have warranted a searching investigation by a joint committee of both houses of Congress. China refused to sign the Versailles Treaty but slipped into the League through the back door of St. Germaine. A Chinese delegate now presides over the Council of the League, swaying the affairs of nations, while the United States, whose president created this instrument for world peace, is on the outside, where, from all indications, she will remain. If ever there was a travesty on international diplomacy and statesmanship, it is the spectacle of a representative of Peking officiating as the chief executive of the League of Nations, whose power for good was emasculated at its birth by the refusal of the Chinese to accept its guarantee.

Let it go into the record that in presenting both sides of the dispute between Japan and China, THE FAR EASTERN REVIEW has lived up to its own conceptions of Americanism and journalistic duty and that its Publisher is proud of the fact that he contributed in no small measure to defeat the campaign of those denationalized Americans who subordinated the vital interests of World Peace and the welfare of their own country to their allegiance to a foreign government.

Our Present Chinese Policy

THE FAR EASTERN REVIEW stands firmly for a square deal to the Chinese people. We make a distinction between the people of China and the military vultures who prey on their helplessness. Our sympathies are with the submerged millions denied the right to determine their own form of government, taxed beyond endurance, impressed into military service against their will, beaten, robbed, tortured, murdered, violated, rendered homeless and left to die of starvation. Our heart goes out to the peaceful Chinese people, patient, long-suffering and unprotected against the tyranny of a feudal system surpassing in cruelty and disregard for elementary human rights the most barbarous and revolting practices of the Dark Ages.

Intervention in the Name of Humanity

We have been accused of conducting an expensive propaganda in the United States to bring about armed intervention in co-operation with the other Powers in order to fasten upon China the yoke of foreign imperialism. This is a wilful lie, manufactured and circulated by Soviet sympathizers who resent the intervention of the American Government in defending the lives and properties of its citizens in China. We are sincere, however, in our belief that unless conditions rapidly change for the better, that intervention in the Name of Humanity, may have its advantages. We have seen it applied in other parts of the world, and once the American people are aroused by the truth of actual conditions in China, we may see it work again. It only awaits for the Missionaries to live up to their real mission in life and take the lead in spreading the truth, for public opinion in the United States to undergo a complete change about the advisability of intervening in China. Some day, the outraged Chinese people themselves will find a leader who will carry their cause to the outside world and appeal in the name of Humanity for protection against their oppressors. "Have patience with us,"

cry the militarists and politicians. "Hands off China!" echo the Uplifters. In the meantime, the cables bring to us the reports of atrocities in which whole cities, towns and villages are laid waste and their inhabitants massacred or driven out in the hills and plains to subsist on grass, roots and vermin until a merciful death by starvation releases them from further suffering. We read of wells choked and poisoned with the bodies of young girls who preferred death to violation. We read of piracies surpassed in audacity only by the exploits of the buccaneers of the Spanish Main. Hideous tales of cruelty and torture, of outrages past belief, come to us from South China, the villainies of a piratical community, which masks itself behind the shield of Bolshevism. Armies of bandits roam the countryside. Gun-men infest the foreign settlements and kidnappers ply their nefarious trade under the very noses of the international police. From one end of the country to the other rises the cry of distressed humanity. Floods devastate vast regions. Crops fail and famine stalks in the land. Instead of compounding their differences in order to bring relief to their suffering people, the Chinese war-lords and their political jackals appeal to foreign charity for succor. To make the situation worse, there is no longer even the assurance that foreign relief funds will be permitted to reach the famine districts.

The Chinese factional leaders have demonstrated their ability to unite on any anti-foreign issue. They can combine and appoint delegates representing all political parties when it comes to an international parley or conference over China but they are incapable of coming together to save the lives of millions of their own unfortunate countrymen, victims of their own callous disregard for human justice. For the past fifteen years the wealth of China has been diverted into the pockets of a comparatively few militarists and their puppets, yet these men, gorged with stolen millions wrung

from the sufferings of the Chinese people, would welcome foreign money for the relief of their starving compatriots, rather than assume a burden that by all laws of humanity and patriotism devolves upon themselves.

The cure for China's ills is unification. When China is united under some form of government representative of the whole country, one that can maintain law, order and security and discharge faithfully its treaty obligations, her troubles will be over. Five years of prosperity under an honest, stable government will restore China to her place amongst the nations, yet with this brilliant immediate future before them, the war-lords continue their struggle for supremacy and the loot that goes with it. The traditional willingness of the Chinese to compromise seems to have been definitely abandoned for a long drawn-out program of unification by the sword and in the sordid struggle for power that goes merrily on, the highest interests of Humanity are set aside, the rights of the individual trampled underfoot and treaty obligations repudiated.

A group of militarists who have no regard for the sufferings of their own countrymen can expect little sympathy from right-thinking foreigners. THE FAR EASTERN REVIEW is interested solely in the ultimate welfare of the Chinese people. It declines to take sides with any faction. The solution of their troubles lies within themselves. They can bring peace to China at any time they come together to compound their differences. Our conception of Americanism at this time, is to remain strictly neutral and support the American commercial community in China and its Government at Washington in demanding that American lives and properties be safeguarded during the present disturbed conditions and that the existing treaties be observed until such time as they can be substituted by others negotiated with a government that can discharge its obligations.

Slippery Diplomacy

Why China is Where it is To-day

ON the wrapper of Mr. Millard's new book, "*China: Where it is To-day—and Why*," the publishers announce that the author "has had thirty years personal contact with the Far East. He was adviser to the Chinese Government through a series of international conferences and was in China continuously during the period covered by his new book."

It is not easy for the uninitiated to tell just when Mr. Thomas F. Millard is acting officially as the "adviser to the Chinese Government" or in his private capacity as a newspaper correspondent and American citizen. There is no record that he was officially connected with the Chinese Delegations to any international conference; yet every time Mr. Millard publishes a new book, the public is informed that he enjoyed this distinction. The *China Year Book* annually publishes the list of China's foreign advisers and Mr. Millard's name does not appear in these lists.

The Chinese Government tacitly admits the official standing of Mr. Millard by silently acquiescing in his statements, while last year at the height of the crisis in China, Mr. Alfred Sze, the Chinese Minister at Washington, addressing an Indianapolis gathering, said in discussing the propaganda issued from his country, that Mr. T. F. Millard was the most reliable of the Far Eastern correspondents. Coming from the official representative of the recognized Peking Government at a time when Mr. Millard's activities were decidedly pro-Nationalist, this statement would seem to indicate that there is complete unity between North and South in recognizing Mr. Millard's peculiar position in the affairs of China. The American Government might profitably follow the precedent set in 1921, when the activities of another Adviser of the Chinese Government were of such a disturbing character that they called for an official explanation from Peking. In that instance, the Chinese Government denied that its self-styled spokesman had any official

capacity, that he was simply home on a vacation and it was no responsible for his activities. Yet his name was carried on the official list of foreign advisers to the Government, and on his return to Peking he duly submitted an official report to the President of China on his activities abroad. The Chinese Government should clarify Mr. Millard's connection with its diplomacy, especially after his activities of last year in conducting a campaign to have the American Minister at Peking removed because, in the opinion of Mr. Millard, he had destroyed the traditional friendship existing in China for the United States through standing firmly on his interpretation of the treaties for the protection of American lives and properties in co-operation with the forces of the other Powers.

However, the reading public must take Mr. Millard at his own estimate. A man who has advised the Chinese Government through a series of international conferences ought to be able fairly to present the Chinese official viewpoint. It is therefore refreshing to have this authoritative explanation of the motives which guide Chinese diplomacy:

"Partly to keep peace among themselves and partly to sustain a balance of power in Eastern Asia, western governments have strived during many years for a united policy towards China founded on the diplomatic euphemism of "their common interests" there. During the time when the euphemism was a camouflage for predatory policies working inside a ring of private agreements among governments, China's only defense was to try to disrupt the artificial unity, to set the diplomats at cross purposes by playing their designs and intrigues one against the other, and so to prevent resolute or decisive action. When this aspect of Chinese diplomacy is criticized, it ought to be remembered that it was adopted and is carried on (the italics are ours. Ed) as a defensive measure.

There is nothing oriental about it. Europe is familiar with that artifice.....the Chinese Government had no effective means to stave off foreign imperialistic pressure except by playing the powers against each other. One often hears Chinese diplomacy described as slippery. *It had to be slippery.*" (Again italics are ours somewhat in amazement!)

Well, Mr. Millard ought to know. In these few words he answers the question propounded in the title of his book and explains just why China is where she is to-day and if we are to accept the statement that Mr. Millard has been China's adviser, are we to assume that this policy was adopted upon his advice. For the real viciousness of the system which Mr. Millard lauds, is that it has always tried to slip the banana peel under the United States. In every major instance where the American Government has been called upon to defend the Open Door principle and maintain the territorial integrity of China, the Chinese Government has created an impossible situation through some secret agreement with some other Power that could only be disentangled by a resort to hostilities. China has never come to the American Government for assistance with clean hands. Somewhere concealed in her inside pocket has reposed a secret understanding with some other Power, a situation which existed right down to the events of last year, when the Nationalists sought our sympathy on the strength of their high ideals, and vehemently denied the existence of any association with Moscow.

The Chinese are not altogether to blame for this. There are certain Americans who have solidified their positions with the Chinese by leading them to believe that the United States would champion their cause under any and all conditions, even to the extent of going to war in their behalf. The late Paul S. Reinsch when he resigned his post as American Minister to Peking in October, 1919, to take over the position as High Adviser to the Chinese Government, frankly demanded in his letter of resignation that President Wilson force a show-down with Japan before it was too late. Mr. Thomas F. Millard, the "Political Adviser to the Chinese Delegation" at the Paris Peace Conference on his arrival in Washington to "kill the treaty in the Senate" loudly advocated war with Japan. Reinsch at Peking and Millard at Washington, with their followers and an organization built up during Reinsch's tenure of office at Peking as American Minister, had the United States on the tobaggan slide headed for war with Japan.

For many years, Mr. Millard has posed before the Chinese as the chief exponent of this policy and has created an impression in their minds that in some mysterious way he is the sole interpreter of America's Far Eastern policies and those who disagree with or oppose him will be ousted from their official posts, or run out of China. Mr. Millard has overplayed his hand and the sooner the Chinese realize this, the better it will be for their future friendly relations with the United States.

Mr. Millard's new book is frankly a threat that if armed foreign intervention in the affairs of China takes place while the tuchuns are repudiating the treaties and menacing the rights and properties of foreigners, the Chinese will hold the United States responsible for whatever happens. The Chinese understand that if the American Government should join the other Powers in demanding that China discharge faithfully her treaty obligations, intervention could not long be delayed. So last year when it looked as though the Powers would act in concert in demanding suitable sanctions after the Nanking incident, they sent us several silver-tongued orators, products of our American universities, to stave off intervention. Naturally, these gentlemen could not very well denounce the American Minister at Peking for advocating armed co-operation with the other Powers for the protection of foreign lives and property in the treaty ports, without destroying their own usefulness, so this patriotic mission was delegated to their erstwhile American political adviser. Mr. T. F. Millard, officiating in his private capacity as an American citizen, was horrified at the alleged betrayal of the traditional American policy by Minister MacMurray and demanded his instant recall.

In order to impress the State Department and Congress with the enormity of Mr. MacMurray's offense, Millard harangued the Williamstown Institute of Politics, wrote an elaborate article for *Asia* magazine and advertised his intention of writing a book to be entitled "*Undermining American Policy in China.*" Everything was timed nicely to have its effect on Congress when it met in December. So the American Government promptly ordered MacMurray back to Peking, decorated the commander of the destroyer

which prevented a massacre at Nanking, and recommended our consul at that port for promotion. The President of the United States even wrote a personal letter of commendation to Consul Davis for his splendid work, "worthy of the highest traditions of the service." Those who run may read. This was the emphatic answer of Washington to a campaign led by an American adviser to the Chinese Government who subordinated his Americanism to the interests of another country and attempted to dictate and define American policy. The lesson may or may not have been taken to heart. Mr. Millard's new book is issued under a less striking title, but its contents clearly reveal that its purpose remains the same.

In the opinion of Mr. Millard, no matter how grave conditions become in China, no matter how much British or Japanese lives and investments are endangered by the prevailing anarchy, the American Government is expected to hold the ring while the tuchuns wage their interminable wars for supremacy. As Mr. Millard puts it:

"If the Powers which are opposed to treaty revision should succeed in getting the United States to shelve or abandon the Hay Doctrine and to aid them in putting pressure on China, the Chinese would then understand that the policy of coercion is formidable and that intervention is a possibility. But if America is firm against intervention or any form of coercion applied to China, Chinese national leaders think that other Powers will not undertake a coercive policy without America, for in that case the political risks have different proportions, and the prospective fruits of intervention might not be worth the risks. It is understood by Chinese leaders that decision of this question rests in a large degree with the United States. It follows, then, that if force is used Chinese intelligentsia will put part of the blame on America. That psychology is evident, and it will not satisfy Chinese to say that in the circumstances the American Government was induced by its international partners or was compelled by its obligations to them so to act."

Mr. Millard's whole book leads up this threat. In plain words, the United States not only must not interfere in any way for the protection of its own citizens and their properties in China but must oppose any other nation from taking such a step, even to the extent, as he explained in a preceding paragraph of refusing to lend money to any other nation for purely legitimate industrial purposes for fear that such a loan would release other funds to pay the expenses of intervention in China. Mr. Millard and his Chinese friends would have the United States interpret the Hay Doctrine in the same manner that we construe our obligations under the Monroe Doctrine. The maintenance of peace, of law and order, honest elections and China's compliance with her international political and financial obligations, would then devolve upon the United States. Is this what Mr. Millard is driving at?

If so, the reason why the United States will never pose as the champion of China and take the sole and full responsibility for her rehabilitation, is explained, by his own confession. The American Government and people would make any reasonable sacrifice to restore peace, prosperity and contentment to the people of China; they might, under given conditions, even go so far as to maintain by force of arms the basic trade principle of the Hay Doctrine, but they will never assume the grave responsibility of protecting China against all other nations until China reverses her diplomacy and comes to us with clean hands.

We do not agree with the official adviser of the Chinese Government that its diplomacy has to be slippery. All of China's modern troubles goes back to the slippery deal between Li Hung-chang and the Muscovite, Lobanoff. The battle of concessions and the partition of China into spheres of interest was the logical outcome of this piece of secret diplomacy whose visible workings alarmed every other Power and compelled them in self-defense to exact compensatory damages.

We agree with Professor E. T. Williams that in the matter of the notes relating to non-alienation of territory as well as to leased territories, China made a diplomatic blunder, in that she did not take her stand firmly upon her sovereign rights, and refuse to give any such assurances as were asked or to discuss the matter at all. In her replies to these demands she tacitly admitted a right on the part of the Powers concerned to exact pledges from her. Li Hung-chang had committed China secretly to an alliance whose practical working could not be concealed and when Germany

demanding the lease of Kiaochow, Wilhelmstrasse was not without a definite idea of just how the land lay. The action of Germany was followed by Russia demanding the lease to Liaotung, but Li could have appealed to the world for justice to China by revealing the secret treaty. Instead he accepted Taels 500,000. Count Witte's admission that he bribed Li Hung-chang is corroborated by the cypher telegrams published in the Krasny Arkiv, vol. 2, page 287-293, Pokotiloff telegraphed to Witte on March 16, 1898, that he paid that day to Li Hung-chang Taels 500,000 and that Li was greatly pleased and grateful.

This is what started the ball rolling and compelled Britain to demand immediate compensations and induced France to come to the assistance of her ally by blocking England in the south and southwest. Li Hung-chang obsessed with the idea of being revenged upon Japan, was caught in the web of his own treacherous diplomacy

and China paid the price. In plain words, that is the story of the partition of China into spheres of interest.

No matter how slippery and tortuous China was compelled to be in the past as a result of her own stupidity, the slate was wiped clean at the Washington Conference where she was granted a new constitution of rights. There is no reason for any further slipperiness, yet the Chinese persist in living up to their traditions. It will be many years before the American people forget or forgive the campaign waged last year in order to conceal from them the intimate connection between Moscow and the Nationalist cause. Mr. Millard's book is one long apology for this slippery piece of propaganda and confirms the suspicion that his advice was largely responsible for activities which have brought about a revulsion of feeling in this country towards China.

G. B. R.

British Trade and Industry

By Gilbert C. Layton, Assistant Editor of "The Economist"

(SPECIAL TO THE "FAR EASTERN REVIEW")

The Outlook for Iron and Steel and Coal

THE monthly output of iron and steel remains considerably below the highest figures for 1927, but there is evidence of a slight improvement on recent months. There were 148 furnaces in blast at the end of February. The output of pig-iron in February was 550,800 tons, against 560,500 tons in January and 571,100 tons in February 1927. The production of steel in February totalled 764,400 tons, against 626,200 tons in January and 826,800 tons in February 1927. Moreover, there is increased confidence regarding the future. For the time being imports of Continental pig-iron into Great Britain have practically ceased, and the competitive position of British makers, both at home and abroad, is better than for many months past. There is still a tendency for consumers to limit commitments as far as possible, but prices are very well maintained.

The outlook for the coal industry has likewise lately undergone a slight change for the better. The activity in the coal trade last month was greater than during the Autumn of 1927 and output has increased, having recently passed the five million tons a week mark. But this is not to suggest that there are fair prospects of a genuine revival. Prices remain for the most part unprofitable. Inquiries have been numerous in the export trade, but orders are not readily forthcoming. Though the demand for steam coals is quieter the pits have a fair amount of business on hand. The various schemes for organising output and prices will not be brought into force immediately, serious difficulties having arisen in connection with the allocation of quotas. In short, much remains to be done by way of reorganization before any real revival is possible.

The Heavy Industries and the New Industries

It is apparent from the foregoing that the position of the heavy industries leaves much to be desired. Some observers, however, do not regard this as ground for concern, since they point to the vitality of our new industries as a counter-balancing influence. But does the buoyancy of the new industries entirely counter-balance, or even largely counter-balance, the depression of the heavy industries? In speaking of new industries we particularly have in mind road-transport, the motor industry, electrical engineering and silk (mainly artificial silk). In recent years these industries have undoubtedly been remarkably buoyant. But what is the position as revealed in the cold light of statistics?

It is important to maintain a due sense of proportion as regards their present relative importance. The typical new trades referred

to above together have less than 700,000 workers on their books, against approximately 1,200,000 in the coal mining industry and an aggregate of 1,000,000 in iron and steel, shipbuilding and general engineering. Their expansion in the last four years has attracted some 127,000 fresh workers to their ranks, but this total is not much more than half the number at present unemployed in the single industry of coal production. Under present conditions, so long as the great basic trades are unprosperous, the activity of the more recently established industries can offer but partial compensation. In other words, if this country is to maintain a high standard of living, it is of the first importance that the old as well as the new trades should make a substantial contribution to the national income.

Engineering Wages

The British engineering industries have not in recent years been enjoying exceptional prosperity. In these circumstances it is of interest to examine the tendency of engineering wages. Are wages high, thus being a substantial handicap to the British industrialist in his efforts to capture export markets? On the whole it would seem that wages have not been unduly burdensome. Indeed, for the past few years the workers trade unions have had a standing application for an advance of £1 per week. This has, of course, been rejected, but last year an advance of one-tenth this sum was made. An application for a further advance has now been made.

The average earnings of all classes of engineers in 1914 was 35/-. By September 1918 this figure had advanced to 84/2½. Since then, however, there has been a fall from this level, the figure for February 1923 being 59/6. From this period onwards wages have shown a slightly rising tendency. And at the present time the figure is 64/-. It is thus clear that from being below the 1914 level in 1923 real earnings have moved definitely above that level in 1926 and 1927, despite a reduction in hours of work from 53½ per cent in 1914 to 47 per week after the war. Moreover, the average level of earnings compares very favourably with the earnings of workers in many other industries. It is noteworthy that there is an increasing tendency to adopt payment by results, the proportion thus remunerated in 1913 being 30.7 per cent., as compared with the current figure of 48.7 per cent. Obviously wages cannot be described as inflated, but whether any further advance can be conceded is open to doubt. At any rate, it is to be hoped, in view of the improving outlook for the industry, that a wage crisis will not develop, which will endanger the movement towards better times.

Mr. MacMurray's Brilliant Diplomatic Victory

United States First to Settle Nanking Outrage Obstacle to Sino-American Friendship;
Nationalists Surrender on All Questions Although American Terms are not Arduous.

The Falsehood of an American Apology for Barrage

THE American settlement of the Nanking Outrage marks a forward step in American diplomacy in China. Mr. J. V. A. MacMurray, American Minister of China, assisted by Mr. E. S. Cunningham, American Consul-General in Shanghai, in spite of many difficulties, have managed to conclude an honorable and dignified agreement with the Nationalist Government over this vexed question, which is a direct result of the ruthlessness of Communist-trained, mutinous, unrestrained troops, who on March 24 occupied Nanking, looted and plundered the city, attacked foreigners, disgraced the American flag and imperilled the lives of American citizens.

Negotiations with regard to this question have been continuous since June 3, when a memorandum on the subject was addressed by Mr. Wang Chung-hui, Minister of Justice of the Nationalist Government to Sir Miles Lampson, the British Minister to China, in which he laid down the Nationalist minimum for settlement.

Mr. Wang Chung-hui's memorandum was reviewed by Dr. C. C. Wu, Minister of Foreign Affairs of the Nationalist Government, who on June 16, prepared a document definitely setting forth the Nationalist irreducible minimum. This document was approved by the Political Council of the Nanking Government and from it no Nationalist minister could deviate. Negotiations were continuous from June to March of this year between the Nationalist Ministry of Foreign Affairs and the United States, Great Britain, Japan, France and Italy, whose nationals had suffered loss of life and property in the course of the Nanking Outrage, but no progress was made largely because the Ministry of Foreign Affairs sought to utilize this incident as a lever for the settlement of all problems outstanding between China and the Powers. For instance, they desired to offset against the Nanking Outrage certain protests which they had made against Great Britain, such as the May 30 Affair in Shanghai, the Shakee affair on June 24, 1925, etc. This proposal was absurd in view of the fact that on all of these occasions the British were forced to protect the lives of their citizens and to maintain their dignity as a nation.

During the month of March, Sir Miles Lampson, British Minister to China, entered upon negotiations with the

Nationalist Ministry of Foreign Affairs for a final conclusion of the Nanking Outrage between Great Britain and the Nanking Government. For a time it appeared that these negotiations would meet with success, but ultimately they failed because the Nationalist Government insisted upon offsetting their own expression of apology for the Outrage by an expression of regret on the part of the British Government for the barrage which was set up around Socony Hill on that day by British and American gunboats to protect the lives largely of American citizens, including the American Consul and his family. Similarly, the Nationalist Government attempted to force the British to include in the agreement settling the Nanking Outrage a statement with regard to the revision of treaties. The British Government refused to agree to any such proposal and at the last moment Sir Miles Lampson left Shanghai without reaching a settlement with Mr. Huang Fo, Minister of Foreign Affairs, of the Nationalist Government, who was anxious that a settlement should

be reached at any cost, if for no other reason that he, not being a *bona-fide* member of the Kuomintang and never having played an important part before in the conduct of the foreign affairs of his nation, sought such a diplomatic victory as would guarantee his tenure in office.

When Mr. MacMurray arrived in Shanghai he realized that a settlement with honor and dignity was, at the moment of his arrival, impossible because the Nationalist Ministry of Foreign Affairs was seeking to achieve such a settlement as would have internal political value to itself and not one which would strengthen the friendly relations between the United States and China. He determined to leave Shanghai to inspect conditions in the Yangtze Valley, travelling from Shanghai to Chungking, a distance of approximately 1,400 miles. In the meantime, Mr. E. S. Cunningham, American Consul-General in Shanghai, continued conversations with members of the Ministry of Foreign Affairs, in which he told them exactly how far the United States would agree to go.

MacMurray's Victory

There was an impression among the Chinese that Mr. MacMurray would have to settle the Nanking Incident because it was not desirable to have this question outstanding during the presidential



John Van A. MacMurray, U. S. Minister to Peking

campaign; they, further, believed that there were elements in the United States which so favored them that they would agree to a settlement without honor and dignity. These impressions were unfortunate because they encouraged the rather inexperienced members of the Nationalist Foreign Office, most of whom were for the first time in their lives associated directly with foreign affairs, to take a stiff-necked view of the situation. Mr. Cunningham, it is believed, was successful in breaking down this attitude, although when Mr. MacMurray returned to Shanghai on March 26, the Nationalist Government was not yet prepared to do more than talk. Within a day of Mr. MacMurray's arrival, it was known in important Nationalist circles that Mr. MacMurray would not remain in Shanghai after March 31 and that the Incident would either be settled by then or he would return to Peking. His very definite stand in the matter, his known friendship for the Chinese people, the failure which the Ministry of Foreign Affairs had met in their negotiations with the British, the certainty of failure if they continued a policy of playing with words in their negotiations with Mr. MacMurray, resulted in success and on March 30 at 8 p.m. notes agreeing to a settlement were signed—a diplomatic victory for Mr. MacMurray, who had found a solution to a vexed problem without imperilling the dignity and honor of his country and without subjecting himself to trickery which was designed to utilize the settlement of the Nanking Outrage solely to influence the current of political events within the Nationalist Government.

The United States demanded that the Nationalist Government should apologize for the looting, murder, robbery and indignity at Nanking on March 24, 1927, which American citizens suffered at the hands of Nationalist troops; secondly, it was demanded that there should be reparation for loss of life and property; thirdly, that those responsible for the outrage should be punished and finally, the United States wanted a guarantee that similar incidents would not again occur.

Nationalists Apologize

As the notes indicate, the Nationalist Government has fully and definitely apologized for the Nanking Outrage. The Nationalist Government expresses their profound regret at the indignities to the American flag and to the official representatives of that Government, the loss of property sustained by the American Consulate, and the personal injuries and material damages done to the American residents. They give a guarantee that there will not be similar incidents in the future. They state that they have already punished the guilty and they create a medium for the assessing of reparation. It is not exactly true that the guilty have been punished. Lin Tsu-han, who organized the Outrage, is either in Russia or in China and has not been punished. The Nationalist Government has issued a warrant for his arrest, but they have not dared to arrest him. It is difficult, however, for the American Government or for any other Government to question the sincerity of the Nationalist Government when they state that they will punish him if he is apprehended. The fifty-one persons who have been punished may or may not have been implicated in the Nanking Outrage, but the American Government cannot question the statement of the Nationalist Government that these persons were responsible for the Outrage and have been punished for it. The Commanding Officer of the troops, General Chien Chen, goes unpunished because it is known that his troops mutinied against him by order of the Chinese Communists who were then in control of the Hankow Government, and because he is too powerful to be punished, but there can never be a settlement and there never will be a settlement of this question with any Power if it is insisted that General Chien be punished because there is no Chinese tribunal in this country which can reach him. The fact that a single general is more powerful than an entire Government and that that Government dares not even investigate his conduct or the conduct of his troops on such an occasion as the Nanking Outrage is, in itself, a repudiation of Government.

Mr. MacMurray realizes this and his reply to Mr. Huang Fu's lengthy note is short, succinct and clear-cut. He puts it up to the Nationalist Government to do the right thing and he makes it more than positive that future relations between the United States and China will depend, in a large measure, upon the sincerity and good faith which the Nationalists may show in the carrying out of the terms of this settlement.

No Apology for the Barrage

Much has been made of the fact that Mr. MacMurray, in a separate note, refers to the barrage around Socony Hill. It will be seen that American interests and American rights and American dignity are preserved. It is evident from this note that should similar conditions arise, the United States will take a similar view of the situation and will act as it did when American gunboats set up a barrage around Socony Hill to protect the lives of American citizens who had taken refuge there. He says that the American Government feels that its naval vessels had no alternative to the action taken and he does not say that should they be placed in a similar situation they would not act as they did then. No matter what interpretation may be placed upon this question, the right of the Chinese to refer to this barrage is unassailable. The Minister of Foreign Affairs who did not refer to the barrage would be a traitor to his country and the wisdom lay not in declining to reply to this query but in replying in such a manner that no one could mistake the meaning and intent. If there are any gains in the Nanking settlement they are in Mr. MacMurray's reply to the question of the barrage and far from providing Mr. Huang Fu with that diplomatic victory which he sought and to achieve which he pressed all countries concerned to make an immediate settlement of this affair, it offers him no alternative but to go back to his own people and say that when the lives of American citizens are imperilled in China and when the Government takes no steps to afford the protection usual in civilized countries, when, as a matter of fact, the very troops of the Government are conducting a campaign of plunder against American citizens in the territory which they occupy, the American Government will use any and all means at its disposal to protect the lives and property of American citizens in this disordered land.*

Treaty Revision

With regard to treaty revision Mr. MacMurray's reply is nothing more than a reiteration of American policy in China, constant and consistent, a policy which has for its objective the equality of China among the family of nations the moment the Chinese people will cease their warring and will settle down to practical reconstruction. The United States has no desire to prolong the unusual political conditions involved in the treaties, if the Chinese people will create such conditions here as will make it possible for Americans to live in this country under the laws of China as they can live anywhere else in the world under the laws of any other nation. The American Government does not desire to extend to its citizens, who dwell in China, the protection of extraterritoriality longer than it is absolutely necessary. At this very moment, when the Nanking Incident is settled, great armies of millions of men are marching to and fro across this country, battling, looting, plundering, destroying the labor of the peasants, bringing famine and hunger to the countryside and endangering the life of every foreigner who has come to this country to trade or to teach or to bring health and benefit to the people of this country. As long as these conditions persist, extraterritoriality will persist. The day these conditions end, the treaties between the United States and China will be revised.

Mr. MacMurray has done a great service to his country and to China in refusing to be cajoled into signing a meaningless agreement. The exchange of notes between Mr. MacMurray and Mr. Huang Fu represent conditions as they exist here; they in no way represent a change of policy on the part of the American Government toward the numerous governments of China and toward the people of China. The Notes follow:

The Notes

The note and the reply thereto exchanged between the Minister for Foreign Affairs, Nanking, and the American Minister, in settlement of the Nanking incident, follow, together with two additional notes and replies.

All notes are dated Shanghai, March 30, 1928.

* It must be pointed out that the Chinese version of these notes prepared by the Ministry of Foreign Affairs, is a distorted translation of the English version, which is by agreement, the official text.

NOTE

FROM THE MINISTER FOR FOREIGN AFFAIRS, NANKING, TO THE AMERICAN MINISTER.

"With reference to the Nanking incident which took place on the 24th of March last year, the Minister for Foreign Affairs of the Nationalist Government has the honor to inform the American Minister that, animated by a desire to promote the most friendly feelings happily subsisting between the American and Chinese peoples, the Nationalist Government are prepared to bring about an immediate settlement of the case, along the lines already agreed upon as a result of the discussions between us beginning from the 26th of February this year.

"In the name of the Nationalist Government, the Minister for Foreign Affairs has the honor to convey in the sincerest manner to the Government of the United States of America their profound regret at the indignities to the American Flag and to the official representatives of that Government, the loss of property sustained by the American Consulate, and the personal injuries and material damages done to the American residents. Although it has been found, after investigation of the incident, that it was entirely instigated by the Communists prior to the establishment of the Nationalist Government at Nanking, the Nationalist Government nevertheless accept the responsibility therefor.

"The Nationalist Government have, in pursuance of their established policy, repeatedly issued orders to the Civil and Military authorities for the continuous and effective protection of the lives and property of American residents in China. With the extermination of the Communists and their evil influences which tended to impair the friendly relations between the Chinese and American peoples, the Nationalist Government feel confident that the task of protecting foreigners will henceforth be rendered easier; and the Nationalist Government undertake specifically that there will be no similar violence or agitation against American lives or legitimate interest.

"In this connection, the Minister for Foreign Affairs has the pleasure to add that the troops of the particular division which took part in the unfortunate incident, at the instigation of the Communists, have been disbanded. The Nationalist Government have in addition taken effective steps for the punishment of the soldiers and other persons implicated.

"In accordance with the well accepted principles of International law, the Nationalist Government undertake to make compensation in full for all personal injuries and material damages done to the American Consulate and to its officials and to American residents and their property at Nanking.

"The Nationalist Government propose that for this purpose there be instituted a Sino-American Joint Commission to verify the actual injuries and damages suffered by the American residents at the hands of the Chinese concerned, and to assess the amount of compensation due in each case."

REPLY

FROM THE AMERICAN MINISTER TO THE MINISTER FOR FOREIGN AFFAIRS, NANKING.

"The American Minister has the honor to acknowledge the receipt of the Note of this day's date from the Minister for Foreign Affairs, which reads as follows:

"With reference to the Nanking incident which took place on the 24th of March last year, the Minister for Foreign Affairs of the Nationalist Government has the honor to inform the American Minister that, animated by a desire to promote the most friendly feelings happily subsisting between the American and the Chinese peoples, the Nationalist Government are prepared to bring about an immediate settlement of the case, along the lines already agreed upon as a result of the discussions between us beginning from the 26th February this year.

"In the name of the Nationalist Government, the Minister for Foreign Affairs has the honor to convey in the sincerest manner to the Government of the United States of America their profound regret at the indignities to the American Flag and to the official representatives of that Government, the loss of property sustained by the American Consulate, and the personal injuries and material damages done to the American

residents. Although it has been found, after investigation of the incident, that it was entirely instigated by the Communists prior to the establishment of the Nationalist Government at Nanking, the Nationalist Government nevertheless accept the responsibility therefor.

"The Nationalist Government have, in pursuance of their established policy, repeatedly issued orders to the Civil and Military authorities for the continuous and effective protection of the lives and property of American residents in China. With the extermination of the Communists and their evil influences which tended to impair the friendly relations between the Chinese and American peoples, the Nationalist Government feel confident that the task of protecting foreigners will henceforth be rendered easier; and the Nationalist Government undertake specifically that there will be no similar violence or agitation against American lives or legitimate interests.

"In this connection, the Minister for Foreign Affairs has the pleasure to add that the troops of the particular division which took part in the unfortunate incident, at the instigation of the Communists, have been disbanded. The Nationalist Government have in addition taken effective steps for the punishment of the soldiers and other persons implicated.

"In accordance with the well accepted principles of International Law, the Nationalist Government undertake to make compensation in full for all personal injuries and material damages done to the American Consulate and to its officials and to American residents and their property at Nanking.

"The Nationalist Government propose that for this purpose there be instituted a Sino-American Joint Commission to verify the actual injuries and damages suffered by the American residents at the hands of the Chinese concerned, and to assess the amount of compensation due in each case."

"In the full realization of the inherent justice and honor of the Chinese people when not affected by the incitations of subversive influences, and with a deep appreciation of the sorrow and humiliation caused to all thoughtful elements of that people by the Nanking incident, and believing that the earnest given as to the punishment of these guilty of the incident will be completely fulfilled at the earliest opportunity—particularly as regards Lin Tsu-han, who was personally responsible for the incident—the American Minister accepts in behalf of his Government the terms set forth in the Note from the Minister for Foreign Affairs in definite settlement of the questions arising out of that incident.

"Confident of the spirit of sincerity in which the present settlement has been made, the American Government looks to the loyal fulfillment of the said terms of settlement, as affording a measure of the good faith and good will with which it may anticipate being met, by the Nanking authorities, in other phases of the relationships between the American and the Chinese peoples."

Concerning the Barrage

FIRST ADDITIONAL NOTE

FROM THE MINISTER FOR FOREIGN AFFAIRS, NANKING, TO THE AMERICAN MINISTER.

"Referring to the notes exchanged this day on the subject of the settlement of the questions arising out of the Nanking incident of March 24th, 1927, the Minister for Foreign Affairs of the Nationalist Government has the honor to invite the attention of the American Minister to the fact that on that date fire was opened upon Socony Hill, at Nanking, by the American war vessels, NOA and PRESTON, then lying in port. In view of this fact the Nationalist Government earnestly hope that the American Government will express regret at this action."

REPLY TO FIRST ADDITIONAL NOTE

FROM THE AMERICAN MINISTER TO THE MINISTER FOR FOREIGN AFFAIRS, NANKING.

"The American Minister has the honor to acknowledge the receipt of a note of to-day's date from the Minister for Foreign Affairs in which reference was made to the fact that on March 24th,

1927, the American war vessels, NOA and PRESTON, then lying in port, opened fire upon Socony Hill at Nanking, and in which the hope was expressed that the American Government would indicate their regret at this action.

"In reply, the American Minister has to point out that the firing referred to was in fact a protective barrage, strictly confined to the immediate neighborhood of the house in which the American Consul and his family and staff, together with many others, had been driven to seek refuge from the assaults of an unrestrained soldiery; and not only did it provide the only conceivable means by which the lives of this party were saved from the danger that imminently threatened them, but it also made possible the evacuation of the other American residents at Nanking, who were in actual peril of their lives. The American Government therefore feels that its naval vessels had no alternative to the action taken; however deeply it deplores that circumstances beyond its control should have necessitated the adoption of such measures for the protection of the lives of its citizens at Nanking."

Treaty Revision

SECOND ADDITIONAL NOTE

FROM THE MINISTER FOR FOREIGN AFFAIRS, NANKING TO THE AMERICAN MINISTER.

"Referring to the notes exchanged this day on the subject of the settlement of the questions arising out of the Nanking incident of March 24th, 1927, the Minister for Foreign Affairs of the Nationalist Government has the honor to express the hope that a new epoch will begin in the diplomatic relations between China and the United States, and to suggest that further steps may be taken for the revision of the existing treaties and the readjustment of outstanding questions of the basis of equality and mutual respect for territorial sovereignty."

REPLY TO SECOND ADDITIONAL NOTE

FROM THE AMERICAN MINISTER TO THE MINISTER FOR FOREIGN AFFAIRS, NANKING.

"The American Minister has the honor to acknowledge the receipt of a note of to-day's date in which the Minister for Foreign Affairs expressed the hope that a new epoch would begin in the diplomatic relations between the United States and China, and that further steps might be taken for the revision of the existing treaties and the readjustment of outstanding questions of the basis of equality and mutual respect for territorial sovereignty.

"Although the question of treaty revision can scarcely be considered germane to that of amends to the American Government and its nationals for the Nanking incident, the American Minister is not averse from setting forth at this time what he has already made known in that regard to the Minister for Foreign Affairs in conversations with him last month.

"It is unnecessary to recall the traditional friendship existing between the United States and China. As is manifest alike from the course of action consistently pursued by the American Government and from the statement of policy made by the Secretary of State on January 27th, 1927, the Government and the people of the United States are in full sympathy with the desire of the Chinese people to develop a sound national life of their own and to realize their aspirations for a sovereignty so far as possible unrestricted by obligations of an exceptional character. With that in view, the American Government entertains the hope that the remedying of the conditions which necessitated the incorporation of such provisions in the earlier treaties may from time to time afford opportunities for the revision, in due form and by mutual consent, of such treaty stipulations as may have become unnecessary or inappropriate.

"To that end, the American Government looks forward to the hope that there may be developed an administration so far representative of the Chinese people, and so far exercising real authority, as to be capable of assuring the actual fulfilment in good faith of any obligations such as China would of necessity have for its part to undertake incidentally to the desired readjustment of treaty relations."

Humanitarian Intervention in China

A Constructive Suggestion for the Relief of the Suffering Chinese People: Famine Relief Useless Unless Permanent Reform in the Physical Basis of China Takes Place

THE *Chicago Tribune* of February 12 published an editorial entitled "When is Intervention not Intervention?" This editorial marks a further development of the *Chicago Tribune's* effort to call to the attention of the American people the necessity of humanitarian intervention in China on behalf of the Chinese people. We reproduce the editorial from the *Chicago Tribune* which follows:

Missionary and relief bodies in China are cabling to America for funds with which to bring succor to four million starving natives in southern Chihli province. The famine area is the focus of the triangular warrings of three of the Chinese generals. What crop failures have not brought about in the way of famine and want, the civil war has supplied.

The American Red Cross, therefore, is being asked for \$300,000 and plans are being made for a drive in America to raise a fund of \$1,500,000. Doubtless the fund will be raised easily. The appeal of a starving child, whether it be American or Chinese, or bolshevik Russian, is one that makes most people put their hands in their pockets. Charity in cases of real and uncontrollable need is always estimable.

From the humanitarian standpoint, therefore, the efforts

of those seeking the relief fund are entirely praiseworthy. But as much cannot be said for their logic.

They explain that they have already been able to send some grain and some clothing into the stricken area, but unfortunately what is sent falls into the hands of the soldiery before it can reach the starving people. The missions say that they are unable to handle the situation. It is their purpose, therefore, to place the work of relief and distribution in the hands of the Red Cross.

It is here that the question of logic enters. Why are methods condemned in other cases of American relief condoned when it is China and missionaries instead of business men who are doing the asking? For diplomatic support is but a euphemism for national support, which means, if necessary, the protection of Americans by force of the marines and sailors who are already near at hand. The Missions are proposing the Red Cross because they know the record of the Red Cross entitles it to command full protection.

There is nothing so very wrong in this. If the United States wants to send help to starving Chinese while a civil war is in progress and wants to be sure that the food and clothing get to their destination, that is very commendable. But under

the present conditions in China, the United States must be ready to back up its move as the occasion may require—by force if necessary. Those asking for relief recognize that fact.

In other words, the same class of persons who issue horrified manifestos about the protection of legitimate business interests abroad and about American intervention in Nicaragua are willing to run the risk of a necessary intervention to feed starving people in China. It does not occur to them that what the cause and effect in China is also cause and effect in Nicaragua; that bloodshed and military depredations can cause, and already have caused, great hardships among the people in Nicaragua, just as they have—though to by no means a similar extent—in China.

It happens that the purpose of American intervention in Nicaragua centers about the question of setting up there a constitutional government; in China the case is one of giving direct aid to famished people. But the difference is one of degree only. The situation in China has the more popular appeal, but there would be plenty of opportunity for popular appeal had not the United States stepped in Nicaragua in time to make intervention a matter of stable government instead of famine relief.

An Ugly Word

The word "intervention" has come to have an ugly interpretation. It seems to mean forcible and unwanted interference by one people into the affairs of another. In China the word has come to be hated, for the Chinese have been taught to think of it in terms of huge military occupations of their cities by foreign troops. Yet, there are few countries to-day where there is not some form of intervention. The very existence of the League of Nations implies international intervention among all signatories to the League of Nations pact in the interests of the people's of the member states and of humanity. The Arms Agreement is a form of intervention, the White Slave Traffic Convention, the Opium Convention, international agreements for the codification of laws, are all forms of intervention. The *Chicago Tribune* appeals for humanitarian intervention in the affairs of China, for the saving of the Chinese masses from the butchering and looting by Chinese militarists and from the inefficiency and dishonesty of Chinese officials. We heartily support the views of the *Chicago Tribune*.

Since September 1924 the provinces of China have been constantly ravaged by civil war. Although few soldiers are killed in the course of fighting, the suffering of the civilians can hardly be described. The missionaries are appealing for assistance for the farmers of Shantung and Chihli who are suffering from a famine, but there is almost no province which is without its cities which have been wiped out by soldiers, Communists, anti-Communists, by the Red Terror and the White, by politicians, by tax collectors and by bandits. On the day following the publication of the editorial in the *Chicago Tribune* the *North-China Daily News* of Shanghai published an article on the "Fiends of Swabue" from its Swatow correspondent, part of which we herewith reproduce as an example of what happened to a city during this warfare:

The worst stories of the communist reign of terror in the Hai-fung and Lufung districts are being amply confirmed by eye-witnesses of the horrors who are arriving here, having made their escape at the peril of their lives, and have been supplemented by even more gruesome details. Nothing that has been published, they say, goes at all beyond the truth. One tells of disembowelled corpses left lying for days in the streets, none being allowed to remove them, until they were torn to pieces and eaten by the dogs; of women whose babies were killed before their eyes before they themselves passed under the executioner's knife, of women approaching childbirth done to death in ways too horrible to describe in print; of men who had their ears and strips of their flesh cut off, fried and eaten before their eyes before they were despatched.

He tells of a boy who was ordered to cut off the head of his uncle; he protested with tears that he could not do it; his uncle said to him that it was the will of heaven, and bade him obey; at last he made an attempt, and bungled it, and the job had to be finished by others; then, because he had cried about it, and made a mess of it, he was himself beheaded.

In listening to the accounts it seems as if the limit of fiendishness has at last been reached, until something else is told which

surpasses it. The compelling of boys and youths to kill their parents and elder relatives seems to be a frequent occurrence. In general the compelling of harmless people to act as executioners is a matter of policy, the object being to involve as many as possible in any retribution which may come in the future, and so dissuade them effectively from taking any action which may bring it about.

For the same reason everything is being done to identify the whole surviving population with the movement. In self-protection the people are compelled to inscribe upon their houses that they are members of the Communist Party; and the intimation has been broadcast that, if and when troops come to attack the Communists, any in any town or village who do not join them in their retreat before them, will be regarded as "reactionaries," and massacred to the last man, woman, and child, when the communists return to power. For this reason the people are dreading the coming of troops to deal with the Communists only less than the present reign of terror. They fear that no distinction will be made between those who have been willing adherents, and those—the great majority—who have joined under fear of death, and that they will complete the desolation which has already gone so far.

Under the Communist *régime* the whole population is organized in groups according to age. Those from ten to 20 years of age are drafted into companies of "boy scouts"—what a prostitution of an honorable name! and one of their chief duties is to act as spies and informers; they are instructed to spy upon their own parents and the elders of their homes. Those from 20 to 30 years of age are compelled to serve in the army, those from 30 to 40 have other forms of service prescribed to them. Those over 40 are designated "old brains," and the ultimate aim is proclaimed to be to kill these off as useless members of the community. The girls and young women are similarly organized; they are trained in the use of weapons, and employed specially for propaganda and processions.

It is the declared policy of the communists to reduce the population by something like a third, in order that there may be a better livelihood for those that remain. The wholesale killing is at least partly an economic measure. Those that are unproductive and a burden to the community are to be done away with, old people in general, the hopelessly diseased, such as lepers, the blind, and so forth. This seems to be both economics and eugenics gone mad.

The Communists have two fastnesses in the mountains as their headquarters, which are said to be practically impregnable. They can be approached only through narrow defiles, which are commanded by machine guns. There they have accumulated stocks of provisions, swept in from the countryside, sufficient to last for several years, if necessary; and report has it that there also are houses stacked to the roof with copper cents and ten and 20 cent. pieces. In their search for hidden stores of money in houses which they plunder they tear the whole fabric to pieces, and dig down deep below the foundations, and are often rewarded by finding large caches of coin.

Some days ago there arrived *en masse* in Swatow the inhabitants of a village situated beyond the city of Chiatzu on the coast, men, women, and children—nearly 1,000 of them. They had resisted the advance of the Communists until their ammunition failed, then evacuated by night, and, before they were well out of sight of their homes, saw the glare of the burning of them. They tramped the whole of the way to Chaoyang, some five days' journey, from where they came on by boat. They belong mostly to the Roman Catholic Church, and have been provided with food and shelter by the Catholic Mission. Hundreds of them have already been emigrated to Siam and Singapore, and probably nearly all will eventually go there.

Reuters, on February 22, sent a despatch from Hankow which may also be reproduced:

That the authorities in this centre are determined to stamp out the last spark of Communism is made evident by the wholesale and merciless executions of communists and alleged communists which have been taking place in and around Hankow of late.

In addition to the 29 who were executed here last Sunday, a report now comes from Hwangchow, a little distance down river, that 34 persons were executed there some days ago while a further 28 have been condemned to death and are awaiting their fate.

It is understood that some more executions are taking place at headquarters here to-day, but the actual number is not yet known. Hundreds of prisoners are still being held and the raiding of suspected premises continues from day to day.

To the foreign mind this wholesale butchery is deplorable, though from the Chinese viewpoint it may be a necessary evil. Competent observers, however, are of the opinion that many innocent suffer with the guilty and, though the authorities claim that each person executed is a proved communist, there are ample loop-holes for the disposal of political enemies and others whom the local generals may wish out of the way.

There has been a complete dearth of news from Hunan for some time and the situation would appear to be unchanged, with the Wuhan armies in control of Changsha and Hengchow and Ho Chien and Liumhsin still holding Changteh.

From Manchuria comes the news of constant uprisings of secret societies of peasants against the officialdom. The suffering entailed in the struggle can be envisaged from the following Reuters telegram :

General Wu Chun-sheng returned to Mukden some days ago from his expedition against the "Big Swords." He declared that the uprising had now been completely quelled. The original number of the insurgents is put at about 7,000, of which number 1,000—including the Taoist leader—who resisted the government troops have been killed in the recent fighting.

At Huangtuai (not far from Tunghua), which was believed to have been the headquarters of the insurgents, three hundred houses were destroyed by the troops, and the homeless and destitute inhabitants are roaming about the country.

A force of 4,000 men under the command of Chi En-ming is still being kept in the region as a safeguard against further disorder. However, some gangs of the "Big Swords" are said to have escaped and moved towards Antung where emergency patrolling has been instituted.

The Swatow correspondent of the *North-China Daily News* may again be quoted :

The communist reign of terror in the Haifung and Lufung districts has been going on unchecked now for two months, and the news which comes through indicates a state of things which for utter ghastliness can have few parallels in modern times, except perhaps in Armenia, or in that Russia of recent years from which its inspiration has come. It is not merely massacre, but massacre with a fiendish delight in cruelty and gloating over the agonies of the victims. A week or more ago the total number of them was being put at 10,000 and there is little reason to think that this will prove an under-estimate. The figures that are given for individual towns and villages are as often as not in hundreds, and in some cases as high as six or seven. Those are regarded as fortunate who are summarily shot or beheaded, but many poor wretches have to undergo the agony of dismemberment, or of the historic "slicing" process, with new refinements of cruelty, before they are allowed to quit the scene.

The folk of the place are compelled to attend the meetings at which these atrocities are intermingled with harangues on the blessings of communism, and any indication, not merely of sympathy, but even of horror or disgust, on the part of an onlooker is enough to bring him into the ranks of the victims. The platforms from which the orators speak are festooned with heads that are cut off in the course of the meeting. Towns and villages are required to produce their quota of heads, and, if they fail, are urged, or threatened, to greater efforts : and any failure in proper enthusiasm in the cause is, in due time, visited with vengeance.

The scourge goes on spreading in a steady advance from village to village, and is already threatening the districts on the side towards Swatow. It is still doubtful whether Chen Ming-ch'u's army in its march from Fukien to Canton intends to clear up this unspeakable mess, or will leave it alone in its haste to get a place in the sun at Canton. If it does not occupy the region in force, there is every reason to fear an advance of the communists in this direction.

The question which is being heard frequently is whether Chang Fa-kuei, in his retreat eastward from Canton, will join forces with the communists, and so strip himself of the last rags of respectability to which he can lay claim, or, in order to save his reputation, will unite with the Kuomintang troops to subdue the communists. If he chooses the former course, the danger to Swatow and the surrounding districts will be serious.

Up till now the military leaders here have been so busy with their own higher politics, that they have had no time to attend to such minor matters as saving millions of innocent people from this reign of devilry. One or two sporadic little expeditions have been sent

out, but have done more harm than good. A small force was sent by sea to the city of Chiehshih, where hundreds had been killed and a large part of the city burned ; they occupied the city for some days, but found that they were too weak to advance any further, or even to hold the city ; and so withdrew again, and the communist hordes returned to a new spell of burning and slaughter, blowing up the walls of the city to render it defenceless in future.

The victims of the terror are of course the "capitalists," the larger landowners, merchants and the village notables, and who are suspected of want of sympathy with the cause, and, as in every such terror, against any whom a private enemy has his spite to wreak. All owners of land are compelled to hand over their title-deeds for destruction, all boundary stones are removed, and the ridges and paths that mark the divisions between fields are ploughed up. All traces of private ownership are thus destroyed, and a plentiful seed is being sown for endless litigation when peace may again be restored to this unhappy countryside.

In the later stages of the madness the anti-Christian slogan has been raised, and the report has come through that an order had gone out for a general massacre of Christians on Christmas Day. This has been confirmed by the report brought from Swabue by the Italian priests rescued by H.M.S. Seraph, but further information is still lacking. Chapels have of course been everywhere occupied by the communists. One at least has been burned to the ground, and the preacher in charge very narrowly escaped execution, and was only let go after being publicly stripped and flogged.

From Siangtan in Hunan comes the following report :—

General Pei Chung-hsi has driven the armies of General Tang Seng-chi from Hengchow and Paoching and has come into contact with the combined forces of Communists and bandits not far from Hengchow. The first encounter caused a retreat of his armies, but reinforcements have been pushed to the front, and Hengchow breathes easier again.

The eastern and southern parts of the province having been in the hands of the Communists again, refugees have been coming into Hengchow and even to Siangtan from the infested regions. The descriptions of the Communists' methods suggest that the old régime of a year ago is again in force. Burning, looting, and killing follow wherever they go. Many houses have been burned in Hengchow and as many as 300 people are reported killed. Reports also say that some of the Presbyterian buildings have been destroyed by fire. A refugee from Hengchow said that not a single shop of any consequence had not been robbed and some burned. It is the same old propaganda of killing off certain parts of the population. Twenty-six or seven kinds of people are to be ruthlessly caught and killed.

The city of Siangtan is outwardly quiet, but a few li from the city, on all sides, there is being renewed the old Communist atmosphere of terror and hate. The Black Heart society is at its height in some sections. They attack at night always ; innocent people's homes are entered and the people killed, their belongings of any value taken, and fear is driving many of the better people into the cities for refuge.

Armed bandits twice have held up the motor cars on the road to Changsha and, at the point of the pistol, have searched all the passengers and taken any good clothes, money, or valuables they happened to have on their persons. The same has happened to a launch on the river at least once. People are afraid to leave their homes, and the whole atmosphere is one of pessimism.

The wireless squad has occupied one of the houses of the Presbyterian Mission, and messages can be received and sent to any part of the Province and to Hankow and Shanghai.

Schools have found it difficult to open because of lack of funds, and pupils are finding it hard to get into places to study, especially those above the primary grades.

In answer to all this is the constant stream of Chinese out of China into the Straits Settlements from the South and into Manchuria from the North. It was estimated, at one time, that as many as between 6,000 and 8,000 Chinese were leaving Shantung and Chihli each month for the more peaceful and quieter regions of Manchuria. The *United Press*, in a despatch from Peking dated February 13, deals with this subject :

Official estimates of the prospective tide of migration from China proper to Manchuria during 1928 exceed 600,000. This figure is based on surveys conducted throughout Shantung and Chihli provinces, from which region most of the immigrants are expected to come.

Recent travelers through southern Shantung found thousands of abandoned farms and entire villages deserted by the inhabitants. War, banditry and poor crops have combined to produce an intolerable situation and thrifty Chinese farmers whose fathers and grandfathers had tilled the same spot of land, were faced with a choice of starvation or migration.

Steamship lines linking Tsingtao and Dairen, the southern terminus of the South Manchurian Railway, are preparing for a veritable "gold rush" next month with the advent of warmer weather. Japanese agents report that literally tens of thousands of Chinese farmers have prepared to leave with wives, children and a few bundles, to seek their fortune in Manchuria.

This movement of population already ranks among the great migrations of the world, and the inevitable result unless it is checked, will be to create a new economic empire in Manchuria at the expense of the once thriving communities of Shantung. The latter province, of course, is not the only spot in China to feel the bleeding effect of migration to Manchuria. All provinces north of the Yangtze River have contributed their share of new settlers seeking to take advantage of the stable economic and political conditions in Manchuria.

Reports from the three Manchurian provinces of Fengtien, Heilungkiang and Kirin say that vast tracts of fertile land are ready to be opened up in the spring. With methods resembling the operations of real estate firms in an American boom-town, various localities are advancing every possible inducement to attract their respective shares of the new arrivals.

One enterprising official met all trains with mule carts and offered the immigrants free transportation and free land. In the Lupei district on the Amur river, official stimulation of immigration has succeeded in filling a wide area comfortably with new farmers. In the city of Lupei, suburb after suburb has been added to accommodate the new population.

In 1924 the number of emigrants from Shantung and Chihli to Manchuria was 217,462. They increased to 256,604 in 1925, 296,000 in 1926 and more than 300,000 in 1927. In actual production of foodstuffs, the figures for Manchuria are even more striking. In Heilungkiang province, for instance, the authorities estimate that the production of rice will be three times greater in 1928 than it was in 1927.

Both Japanese railway officials and Chinese authorities in Manchuria agree that there is enough agricultural and industrial wealth in Manchuria for all who want to come. Fengtien province has been fully settled in much less time and under circumstances less favorable than existed in the American west. Constant warfare, banditry and general uncertainty of the territory's political status, undoubtedly retarded but could not prevent development of this province.

The usual method of settlement is by granting large tracts of land to wealthy companies or individuals. It is their task to bring in new settlers, provide them with farming equipment and funds for the first three years. This will lead eventually, of course, to the building up of an elaborate system of landed gentry but this possibility is generally overlooked in view of its beneficial results.

Very little seems to be written or spoken to-day in China which does not concern civil war, chaos, famine and general disorganization. Manchuria stands out, therefore, as the one hopeful and constructive factor in the Chinese situation.

Constructive Intervention

When it is realized that Chinese do not easily leave their homes, that they prefer to suffer at the family hearth rather than enjoy comforts in strange places, when it is known that these immigrants leave their ancestral halls and tombs for safety and a livelihood in distant places only because it has become impossible to live in their homes, then alone can the tragic picture of human life in China be fully appreciated. Sending millions of dollars into China for sporadic relief is wasting money. The officials will probably utilize the money for civil wars and the people will in no way benefit from America's whole-hearted contribution. The past experiences of such contributions can leave no doubt as to what the outcome would be of any funds sent to China without full supervision by the contributors. Nor would it be advantageous merely to throw huge

amounts of money and food into Shantung and Chihli to afford a temporary relief to the suffering people of these provinces. What would be a genuine benefit to the Chinese people would be a contribution of a permanent nature, something which would reorganize the physical basis of their life, which would ensure their future against the constant dread of starvation or semi-starvation.

Every student of China realizes that the misfortunes through which this country has been passing are not entirely the result of the decade of civil war. Destructive processes had been at work toward the end of the Manchu dynasty, and the Chinese failed to take steps to save themselves from sheer disintegration during that period and since then. When one realizes the immensity of this country and the fact that means of communication to-day are in most parts of China inefficient, when no Government is able to control a larger area than its own troops can reach in a short period of time and when the troops cannot reach any area quickly because the means of communication are so antiquated. Without railroads and roads, without the improvement of waterways there is no method by which China can be united and modernized and by which benefits can be brought to the masses of the Chinese people. The physical basis of China must be revolutionized, but it must be revolutionized in such a manner that China becomes a modern state because economic processes of life, of transportation, of production and distribution are modernized. There is no use talking about a modern China because some lawyers have codified a few laws and some politicians have written a few high-sounding regulations and some Chinese students in America have pronounced themselves of modern sentiments, unless the life of the people has been made liveable by the creation of modern agriculture and industry through the introduction of Western principles of production in China. If the United States intervenes in China as the *Chicago Tribune* suggests, it must be an intervention that takes on this form: railroads and roads are to be built; waterways are to be improved; factories are to be erected and hillsides are to be re-forested. A contribution of this nature means permanent wealth to China and the world; pouring money into famine stricken areas is like the Yangtze River dumping its yellow sands into the Yellow Sea.

To Whom it May Concern; N.B.

THE United States Senate on March 2, passed a bill after a brief but sharp debate requiring lobbyists to register in the House and Senate. A lobbyist is defined in the bill as "one who shall engage for pay to attempt to influence legislation or to prevent legislation by the National Congress" and lobbying as "any effort to influence the action of Congress upon any matter coming before it, whether it be by distributing literature, appearing before committees of Congress, or interviewing or seeking to interview individual members of either the House of Representatives or the Senate." Violation of the act would be punishable by a fine of \$100 to \$1,000 and imprisonment from one month to a year. Selah!

Never again will a paid agent of a foreign government posing as a disinterested American citizen be permitted to appear before the Foreign Relations Committees to influence legislation without swearing under oath his connection with the bill and undergoing a merciless quizzing as to his sources of income and interest in the pending legislation. There is no need to stress the point or personalities. There are several American citizens in China who have solidified their position with their Chinese friends by reason of their alleged ability to influence American legislation, and who have at various times been conspicuous by their activities along these lines while receiving pay from the Chinese Government. THE FAR EASTERN REVIEW welcomes the new law as a step in the right direction to protect the American Government and people from the propaganda and testimony of paid agents seeking to influence our foreign policies and relations. Coming as it does immediately following President's Coolidge's appeal to the patriotism of the press in supporting national policies, the new law will materially assist in cleaning up an intolerable situation.

America's Far Eastern Policies

The Open Door; A Doctrine Conceived in England, Sponsored by the United States and which Japan Staked her Existence to Maintain

A Vindication of Japan: A Scathing Indictment of China

A Review of a Book Entitled "Adventures in American Diplomacy, 1896-1906" by Alfred L. P. Dennis, Professor of Modern History in Clark University. Publishers, E. P. Dutton & Company, New York

BY far the most important contribution to the history of America's foreign relations is the study of Professor Alfred L. P. Dennis, issued under the title "Adventures in American Diplomacy, 1896-1906." The book is based largely on the unpublished Olney, Roosevelt and Hay Papers, supplemented by free access to the State Department files and archives. It gives the inside history of the major diplomatic incidents occurring within the decade covered, but its greatest value is the light it sheds on America's Far Eastern diplomacy in the negotiation of the Open Door doctrine, the Boxer Indemnity, The Far East generally between 1901-04 and the events leading up to the Portsmouth Peace Treaty. No one can read these official and personal documents without completely modifying his opinions on many things that to date have been taken for granted. The book is bound to exert a powerful influence on all future discussions over America's Far Eastern policies and when read in connection with equally important disclosures by other authorities, must compel a revision of Far Eastern history, or what is now accepted as such.

The book is of special importance at this date when several self-styled authorities are arrogating to themselves the right to interpret our policies to conform with their own opinions, by defining in clear cut terms the basis of our diplomacy. Like the disclosure of the secret Sino-Russian treaty of alliance at the Washington Conference, this book will fall like a bomb-shell into the ranks of the professional anti-Japanese agitators and, like that confession, will receive little or no attention from them. Another campaign of silence will be carried on to ignore the facts. However, the record will stand.

It is made clear that the fundamental and persistent policy of the United States has been and still is to promote the development of Asiatic states, sufficiently strong and stable to stand by themselves; to stimulate trade and influence western education, but alongside has remained the desire and determination to avoid war and to avoid alliances and combinations with European states who did not share our dominant purpose. That the American Government never contemplated going to war to enforce the Open Door doctrine is clearly set forth in this book. In its inception the doctrine was but an expedient and was later to become something of a fiction, but it served the United States both politically and commercially fully as well as any agreement with the other powers for preserving the right of equal opportunity to trade. The credit that attaches to American diplomacy arises from the skilful manner in which the entire negotiation was conducted. The original suggestion came from Lord Salisbury in the form of an invitation that the United States unite in a triple agreement with Great Britain and Germany with respect to China which was rejected as being in opposition to our traditional policy in the matter of foreign entanglements. The man who drafted the Open Door

principles was W. W. Rockhill, who sent his memorandum to Hay and the latter practically quoted him verbatim in drafting his own notes to the Powers. The United States gave nothing and when we found that the Powers would not exactly agree on the American plan, then by a clever turn Hay announced that their agreement to the general idea was "final and definitive." He never did secure the full and unconditional adherence to his plan from Germany, France and Russia, and the latter's refusal to accede to its plain construction was to lead in a few years to the war with Japan.

The United States at that time had the opportunity to champion its doctrine but as Professor Dennis points out:

"The question of the attitude of the United States promptly arose from an inquiry on the part of Japan as to what our policy would be in view of Russia's violation of her public pledges and promises, since Russian domination of Manchuria was involved. Here was a real test of what the United States meant by its Chinese policy and by its support of the 'entity of China.' Secretary Hay was obliged to reply that 'we were not at present prepared to attempt singly, or in concert with other Powers, to enforce these views by any demonstration which could present a character of hostility to any other Power.'"

"Thus a large part of our Far Eastern policy was shown to be unstable. We were not prepared to fight for what we knew was right. Then and there the future history of the Far East was determined for the next quarter century. The United States was unable and unwilling to go to war for the protection of China. The best we could do was occasionally to turn the searchlight of a diplomatic note on the situation. Such moral pressure was at times successful. At best it was a temporary expedient and it left the open door policy exposed to the vicissitudes of time."

In discussing the origins of the Russo-Japanese war, Professor Dennis returns to this subject and says:

"We did not step forward (as the defender of the open door) at the time, and Japan took that rôle. Indeed, in

response to a direct appeal from China that America exercise her good offices to secure a settlement of the Manchurian question and the withdrawal of the Russian troops, the United States replied that she did not know enough about the problems involved and that in any case Russia had not intimated a willingness to accept her good offices.....The United States thus bided her time in a way which some have described as selfish and heartless. She is accused of a cynical readiness to let Japan fight her battles while she clung to the ringside. Such a view is short-sighted and does not reckon at all with the force of public opinion. As a matter of fact American



Li Hung-chang

opinion was strongly sympathetic with Japan; but it was doubtful whether she could win against the Russian Colossus and the idea that the United States should go to war in support of Japan was foreign to our thoughts. Only in the mind of President Roosevelt did such a notion have room."

Probably one of the most illuminating disclosures of the book is that paragraph describing Japan's immediate acceptance of the Open Door principle. Hay had approached the problem first through the European Powers, realizing that they held the key to the situation in China and the Japanese legations in the various European capitals had promptly informed Tokyo of Hay's activities.

As for Japan, the British Government had already suggested that the United States should seek for her adherence. Consequently, on November 13, 1899, a note similar to that of September 6 was dispatched. Before it could reach Japan that Government had made inquiries regarding the American proposals to European Powers. Viscount Aoki, Japanese Foreign Secretary, promptly accepted Secretary Hay's plan in a formal note to Minister Buck on December 26. In the course of the negotiations at Tokyo, Japan expressed a great desire that "American business men of capital should join with Japanese men of business in various enterprises in China and Korea." This proposal, apart from its economic advantage, may well have had back of it the idea that Russia would be less likely to object to such economic development if American interests were involved. Later, it was Japan alone who inquired of the United States as to the discrepancies to be observed in the replies of Germany, Russia and France. As we have already seen, the adherence of these three Powers scarcely went beyond the promise to apply most favored nation treatment in China. Secretary Hay had, however, secured enough for his immediate purposes by the notes received and wisely he had assumed a real acceptance by Russia, and had decided to "let well enough alone."

This is the first time that any American writer on Far Eastern affairs has invited attention to the spontaneous and unqualified acceptance by Japan of Hay's proposals. There was no attempt to interpret Hay's proposals from the standpoint of any secret understanding. In the light of subsequent events, Viscount Aoki's words ring true:

"I have the happy duty of assuring Your Excellency that the Imperial Government will have no hesitation to give their assent to so just and fair a proposal of the United States provided that all the other Powers concerned shall accept the same."

Japan aligned herself without reservations on the side of the United States and only desired to be convinced that the other Powers were acting in the same good-faith. When the replies of Germany, France and Russia were communicated to her, Japan alone, of all the Powers, invited Hay's attention to the discrepancies to be observed in the notes which indicated their insincerity. These facts are of immense importance at this juncture. The American people are now being told that a loan to the South Manchuria Railway is simply aiding Japan to forward her imperialistic designs upon China; that American co-operation with Japan in China is a thinly disguised instrument to employ American money to assist Japan in strengthening her economic hold upon China; that such co-operation will only end by closing the door to American trade in North China, etc. Yet we have here the evidence from the official records of the American State Department, that at the very inception of the Open Door doctrine; at the very time Japan was asked to subscribe to its principles, the Japanese expressed a great desire to co-operate with America in the development of enterprises in China, not for the purpose of weakening her sovereignty, but to strengthen it under the protecting principles of the Open Door doctrine. American financial co-operation with Japan in the development of Manchuria is the surest guarantee that China's rights and sovereignty will be respected. Undoubtedly, the Japanese foresaw the inevitable conflict with Russia at the time they broached the subject and hoped by attaching us to her in the development of Chinese enterprises within the Open Door principles, to obtain our active support when the show-down with Russia could no longer be postponed. If she did have this idea, it was fair diplomacy, an honest belief that we would take effective steps to maintain a doctrine we were at such great pains to promulgate. America stood before the world as the champion of China, and Japan was fully justified in seeking to create a situation that would have aligned us firmly on her side against Russia's annexation of Manchuria. Although at that time,

American capital was not seeking foreign investment, yet it must not be forgotten that our concession hunters were extremely active in China. In April 1898, the Brice syndicate had obtained a concession for the Canton-Hankow Railway and other Americans had been seeking the concession for the Peking-Hankow line. From all outward appearances, American capital was determined to obtain a foothold in China, so the invitation of the Japanese Foreign Minister, was timely and appropriate. The British were also misled by our activities and offered to pool with the Brice syndicate all their railway concessions in the Yangtze Valley for an equal share in the Canton-Hankow line. These overtures from Japan and Britain that would have definitely forced us to stand with them in the protection of China, were rejected. We had no army, no navy, nor the capital with which to support our policy and, when the show-down came, Japan faced the issue alone and fought the war to establish firmly an American doctrine. Had American capital joined with either Britain or Japan for the development of China, at that time, Russia might have been deterred from carrying through her program to annex Manchuria.

It is a great pity that Professor Dennis did not invite attention to the secret treaty of alliance between China and Russia of May 1896. Had he printed the text of the treaty, even without comment, it would have provided a key for the reader to interpret what was going on behind the scenes in the Far East during the decade covered by his book. All the diplomats could see the visible working of some sort of understanding between China and Russia. They sensed the impending danger but had no inkling of the truth. For years, Russia had been trying to reach India through Afghanistan and the Pamirs but every move was checkmated by Britain. To her amazement she now saw Adam Zad growling his way through Chinese territory until he came to rest at the tip of the Liaotung peninsula and then watched him stretch out his paw towards Peking, while his French ally and Belgian financial agent were preparing the way for a further advance southwards towards the Northeast frontiers of India. Britain knew the tactics of her enemy and acted instinctively to ward off the blow. Japan saw the menace a long way off. She knew that Russia's approach through China meant that sooner or later she would have to fight to maintain her own independence. Britain and Japan intuitively came together in an alliance to defend themselves against Russia. They could see that something was wrong, but never suspected that China had deliberately handed her territory over to Russia under the terms of a secret alliance aimed at Japan. The world has subsequently heard much about the menace to China involved in the Anglo-Japanese Alliance, but no writer has ever invited attention to the Sino-Russian Alliance which forced these two Powers together for protection. Amongst other things, one of the objects of the Washington Conference was to bring about the cancellation of the Anglo-Japanese Alliance. China as usual frothed at the mouth over this menace to her independence and ascribed to it all her ills. Towards the end of the Conference, the Chinese Delegate for the first time submitted the text of the secret treaty of alliance with Russia, which was read out in open session by Secretary Hughes. Nobody said a word. Everybody was looking out the window admiring the scenery along the Potomac when the evidence which justified Great Britain and Japan was officially revealed to the world. Hughes hurriedly passed on to the next business before the conference. What a commentary on modern statesmanship and diplomacy!

All the official and diplomatic correspondence quoted by Professor Dennis shows clearly that the American diplomats in Washington and Peking were suspicious of both Russia and China. Rockhill alone, with his great knowledge of Oriental peoples, seemed to have preserved faith in Russia's intention to respect the independence and integrity of China. Conger and Denby at Peking, Sherman and Hay in Washington, instinctively knew they were being tricked but had nothing to base their suspicions on further than the unconfirmed Cassini Convention. It is possible, however, at this late date, with China's official text of the secret treaty before us, to understand what was then a source of great perplexity and concern to Hay and his co-workers. As Ambassador Tower wrote to Hay from St. Petersburg commenting on Russia's reply to his note:

"The truth is that the Russian Government did not wish to answer your propositions at all. It did so finally with great reluctance. . . . There is probably nothing in the whole course of international relations so distasteful to the Russian

Government as the necessity to bind itself by a written agreement where such a course is not absolutely unavoidable."

We know that Russia was bent on cajoling the United States in order not to alienate our friendship while she pressed forward her plans to crush Japan through the occupation and annexation of Manchuria. Russia could not accept Hay's proposals in good faith and it is noteworthy that after receiving Russia's reply, Hay dropped the term "open door" from all future public documents relating to the entire plan. Denby's letter to Secretary Sherman of March 19, 1898, is a scathing indictment of Russia:

"The conduct of Russia has been characterized by tortuous treachery. By her secret treaty with China, called the 'Cassini Convention,' Russia bound herself to protect China against all enemies. When the Germans invaded Kiaochow, China consulted Russia to know whether she ought to make armed resistance. The Russian Chargé here held up his hands in horror, and exclaimed that China should by no means resist, and protested that Russia would at the proper time protect her. He also declared that the Russian Admiral had been ordered to go to Kiaochow and drive the Germans out. After some days had passed and nothing had been done, the Chinese Government again appealed to the Russian Chargé. They were told to wait, and that Russia had been assured that the German occupation was temporary, and that the order to the Russian Admiral to drive the Germans out was suspended. They waited until it became apparent that the Germans intended to remain permanently at Kiaochow, and again consulted the Russian Chargé d'Affaires, who informed them that their conduct in treating with the Germans had given offense to Russia and now she would not intervene."

"They then on the 6th of this month signed the convention with Germany whereby they practically abandoned Shantung to its possession and control. As soon as that convention was signed Russia immediately demanded the cession of Port Arthur and Talienwan Bay on exactly the same terms as had been granted to Germany. The Chinese Government protested and the Chargé informed them that the Emperor of Russia was very indignant that China had entered into collusion with Germany, and had made the Convention mentioned with Germany, and now Russia intended to pursue her own course regardless of China."

"International intercourse does not contain an episode of greater moral baseness than this. Russia prevents by her advice China from defending herself, forces her, by non-compliance with her agreement with China to protect her, to abdicate her sovereign rights, and then, when she has done so, avails herself of this abdication in favor of one country as an excuse to demand a like abdication and surrender of national rights in Manchuria! In all this matter the policy of China was plain. She should have said to Germany; 'I am unable to fight you, I have no army or navy, but I will never consent to surrender any of my territory. If you invade my territory, and appropriate it I will appeal to the civilized world with which I have treaties, to intervene to save these treaties, which are as important to the various powers as they are to me.'"

We now know that even Denby was fooled and that the Chinese had deliberately pulled his leg in describing how Russia had forced them to surrender their rights to the Liaotung peninsula. The officials of the Tsungli Yamen in daily contact with the legations were the window dressing behind which the real powers in China concealed their movements. The evidence is now before us, in the memoirs of Count Witte that he bribed Li Hung-chang with Taels 500,000 to sign the Liaotung lease and the concession for the South Manchuria Railway. The *Krasny Arkhiv* disclosing the secret documents of the Czarist régime, reprinted in full in Steiger's "China and the Occident," gives the text of these cypher telegrams between the Russian legation at Peking and Count Witte at St. Petersburg. Li Hung-chang received Taels 500,000 and Chang Yin-yuan, Taels 200,000. Not only did Li fool the entire world during this period over his secret treaty with Lobanoff, but he cynically sold out his country in order that Russia might be firmly established in Liaotung in order that his revenge upon Japan for his humiliation in 1896 might be complete.

The Chinese may well take the stand that as the lease to Liaotung and the rights to the South Manchuria Railway were obtained by bribery; that this alone invalidates the Russian claim and undermines Japan's position. But this would fail to take into considera-

tion that for all practical purposes, Li Hung-chang, the Grand Secretary, was the Chinese Government of his day and, that he alone knew of his secret alliance with Russia and that he faithfully lived up to his side of the bargain. Li Hung-chang was obsessed with one idea; to be revenged upon Japan for his defeat and humiliation of 1896 and he gladly betrayed his country and brought upon her further alienations of territory, by consenting to the installation of Russia in the Liaotung Peninsula as the one certain way to assure his revenge. For, it goes without saying that the main Chinese Eastern Railway traversing northern Manchuria could not materially menace Japan or facilitate the transport of the Russian armies to points on the Korean frontier, in conformity with the terms of the secret alliance. Li Hung-chang knew exactly what he was doing, and when he let the Russian Bear in to the tip of the Liaotung Peninsula, he knew that he would have to pay the price to the other Powers. This, in plain words, is the story of the partition of China into leased territories and spheres of interest, the price that Li willingly and gladly paid to put his ally in the position where it could force the issue with Japan. From all these facts, the full responsibility for the Russo-Japanese war must be accepted by China. The proofs of her double dealing can no longer be concealed. Her subsequent woes arising from the "battle of concessions" and creation of spheres of interest delimited by foreign controlled railways, are the direct result of Li Hung-chang's treachery, or, patriotism, if you will.

John Hay had Li Hung-chang's measure. In the dilemma leading up to the acceptance of a proper representative of the Chinese Government to negotiate the Boxer Indemnity protocol, American diplomacy favored Li Hung-chang, but Hay labored under no delusions about his character as is evidenced in the following personal letter to Assistant Secretary of State, Adee, September 14, 1900:

"It seems to me, if we can get the Chinese Government, or its clearly authorized representatives, back to Peking, we ought at least to initiate our negotiations there, even if, later on, we should transfer them to Shanghai or elsewhere. We ought to pay all possible civility to Li Hung-chang, to Prince Ching, and anybody whom we accept as negotiators. If we could send Li to Tientsin on a U. S. vessel, I should be inclined to do it. *He is an unmitigated scoundrel, of course, thoroughly corrupt and treacherous.* But he represents China and we must deal with him, with Liu Kan-yih, and with Chan Chi-tung, as if we trusted them."

Under ordinary circumstances, the publication of such a letter might well be resented by the Chinese Government as an insult to the memory of one of their great statesmen. The fact that the world now knows how Li betrayed his country by accepting a bribe, brought about one of the most disastrous wars of modern times and even buncoed the victor out of the spoils of victory, fully justifies Hay in characterizing him as an "unmitigated scoundrel."

Another quotation from the same letter that might be taken to heart by many of China's present day American advocates, is the following. The talk of the papers about "our pre-eminent moral position giving us the authority to dictate to the world is mere flap-doodle."

In another decade, perhaps, the State Department will permit the publication of the Knox Papers with free access to its archives covering that period immediately following the Portsmouth Peace negotiations and reveal to an interested world just why American diplomacy was induced to make such a firm stand for the maintenance of the Open Door in Manchuria after Japan succeeded to Russia's rights in that territory. We already know considerable about the inside history of this period from the biographies of Willard Straight and E. H. Harriman and, from their evidence the disinterested student will incline to the belief that our renewed championship of the doctrine we had permitted Japan to defend alone, arose from a desire on the part of the "father of dollar diplomacy" to further the extravagant dreams of Harriman to gain control of the South Manchuria Railway as a link in his round-the-world transportation scheme, failing which, to create a lever through the Chinchow-Aigun railway concession that could be used to compel Japan to sell out.

With all the facts now before us, we can understand better what was behind the clever diplomacy of Tang Shao-yi in handing over to Straight the Manchurian loan agreements which aligned the United States with China in opposing Japan and brought about

the organization of the officially supported American Group as the instrument of our new diplomacy. The efforts of American diplomacy to dislodge Japan from her hard won position in Manchuria shows how completely our government had been gulled and hoodwinked by China. For it goes without saying, that had Gresham, Sherman, Hay, Knox or any other high-minded American diplomat, the slightest inkling of the true state of affairs, their entire sympathy and support would have gone out to the nation who had so whole-heartedly accepted our proposals and so bravely risked its very existence in restoring China's sovereignty over a territory she had by all recognized laws of warfare forfeited. Had the existence of the secret treaty of alliance between China and Russia been known to Roosevelt, his high conception of honor would never have permitted him to take such an active part in the peace negotiations, except to see that justice was done to Japan. China stands before the civilized world convicted by her own confession of having systematically, callously and deliberately willed and precipitated the Russo-Japanese War and, by reason of her continued silence after its termination, stands accused before the American people of intentionally misleading and pitting the United States against Japan in Manchuria in order to deprive Japan of the picayune spoils that came to her at Portsmouth. It is the only apology that the United States can make to Japan. *We did not know.* Mr. T. F. Millard, the "official political adviser" to the Chinese Government in its international relations, says in his latest book, that "Chinese diplomacy had to be slippery," but as we point out in our review of that book, the viciousness of the policy is that it has always tried to slip the banana peel under the United States.

One of the most interesting disclosures in Mr. Dennis' book, is the letter from Minister Conger at Peking to Secretary Hay, dated March 1, 1899, in which Conger after reporting on the Italian demands for a lease of the Bay of San Moon, in Chekiang and the general belief that China is going to pieces, says:

"I do not know what the desire of the Department is upon this question nor its proposed policy; but if it shall deem it advisable ever to own or control a good coaling station on the Chinese coast, or if it wishes to be a party to the division and a sharer of the assets, then it is necessary that the place be selected and its cession or lease demanded at once; even now it may be too late.

"A glance at the map will show Russia strongly entrenched in Manchuria, Germany in Shantung, Italy demanding Chekiang, Japan expecting Fukien, England at Hongkong and the French in Kwangtung and Tongking, with the English claiming an extended sphere along the Yangtze and a general and most important settlement at Shanghai. There is practically nothing left for the United States but the province of Chihli. This, however, with Tientsin as the entrepot for all northern China, is destined in the future to be commercially one of the most valuable possessions in the Orient.

"The policy of the other powers seems to be to obtain possession of some unimportant harbor or bay, claiming as a perquisite a temporary control of developments in the adjacent province, with a prior claim, this established, to the entire province at the proper time.

"If our government should have a like purpose, some point might be selected on the coast of Chihli, and the same tactics employed.

"However, it is possible that Taku is the only suitable place along the coast of this province, and being at the entrance of the treaty port of Tientsin, such strenuous opposition would probably be made by the other powers as would render its cession impossible. But our Navy Department must be fully informed as to all possible harbor advantages along the entire Chinese coast and can make a selection if it is desired.

"My own opinion is that a permanent ownership of territory (except for a coaling station if that is needed) in China is not desirable. But if all China is to fall into the hands of European powers, a strong foothold here by the United States, with something tangible to offer them, might compel them to keep permanently open doors for our commerce.

"But I am here to execute your commissions and whatever they may be I shall undertake them with alacrity.

"I have as yet made no protest against granting this lease to the Italians although it, like those to Russia and Germany, seems evidently in contravention of treaties, because no formal protest having been made against the other powers,

I can now see no good reason for making an exceptional case against Italy."

That Hay subsequently acted on Conger's suggestion is revealed in the revised edition of *China, Yesterday and To-day* by Professor E. T. Williams, who retired some years ago after a lifetime spent in the American diplomatic service in China. With his unusual facilities for accurate information, his account of what follows, will throw a new light on Hay's conception of the Open Door and the Spheres of Interest. On page 413 of his revised book, describing the genesis of the Open Door doctrine and what it really meant, Professor Williams says:

"The Secretary (Hay) was interested chiefly in the protection of American commerce, and sought to prevent the erection of high tariff barriers in the "spheres of influence" less favorable to American trade than the existing Chinese treaty tariff.

"His recognition of the spheres of interest was made still further evident, when, in 1900, the American navy desired to lease a coaling station in the Samsah Inlet, in Fukien, within the sphere of interest claimed by Japan. Before mentioning the desire to China, he instructed the American Minister in Japan to ascertain whether the Japanese Government would make objection to the negotiation with China of such a lease. To this the Japanese Government, on December 10, 1900, replied declining to accede to the proposal. This action of Secretary Hay, moreover, was taken after the Boxer rising had shown how China viewed the whole policy of "spheres of interest."

The evidence here would go to prove that the United States not only recognized the spheres of interest, but even tried to obtain a coaling station in the Japanese sphere and approached Japan direct on the matter. It tells us that John Hay never contemplated the extension of his purely trade protection principle into a doctrine which guaranteed the territorial integrity of China. Professor Dennis' book also reveals that the United States was not concerned at any time with the establishment of such a principle, nor with the idea that in some way we had constituted ourselves the protector of China against any and all enemies.

That the State Department has consented to the publication of some of its most important and confidential documents is evidence that it was willing for the truth about our Far Eastern policy to be made public. The official papers quoted prove conclusively that never at any time did the Department labor under illusions about China; that it was always suspicious and unconvinced. If the severe arraignment of their diplomats and statesmen is taken to heart by the Chinese, the book will have served a real purpose. For it tells the Chinese in no unmistakable language that America is their friend, that it is willing to support and aid them, but if and when they come to us seeking our help, they must "come clean."

G. B. R.

The Attitude of Large Companies Toward Chinese Students

THE Secretary of the Chinese Engineering Society, American Section, has addressed fifty-five large companies of this country asking them whether or not Chinese engineering students are eligible to work for experience in their companies. In reply to our request we have received optimistic answers from the executive officer of the various concerns whom we wrote to. We take this opportunity to quote few lines from some of these replies as follows:

"We have had during the past several years a Graduate Students Engineering Course in our Engineering Department for non-quota immigrant students. We are registered with the U.S. Department of Labor as an institution of learning for immigrant students in accordance with the Immigration Act of 1924, and are therefore authorized to conduct such a student course.

"Up to the present time we have had five or six Chinese students here according to the amount of work we have had on hand, and these students have stayed here between one and two years. At the present time we have here five Chinese students in

the Engineering Course and this is the limit of our capacity for these students at present.".....Mr. A. L. Ferrandi, Chief Draftsman, B. F. Sturtevant Company, Hyde Park, Mass.

"For many years we have always had several Chinese students enrolled in our student engineering training course for college graduates. These men are selected partly by our own representatives in China and in part by the members of our organization who visit each year all of the leading American and Canadian Colleges and select by personal interview the men who are to come here to join our students course.

"We are quite aware that we have enjoyed much good will in China and a definite increase in our business as a result of our policy in training these students, and we have every intention of continuing on this basis.".....Mr. R. F. G. Coggeshall, International General Electric Co., Schenectady, N.Y.

"We have always had Chinese students in our organization up to the last uprising and since that time we have not had any in our employ. We are waiting for one to come here from our Chinese Branch which we maintain in Shanghai, but up to the present time (December 27, 1927) he has been unsuccessful in getting the proper papers for entering this country.".....Mr. D. J. Gillespie, Manager, Export Department, Kellogg Switchboard & Supply Co., 1066 W. Adams St., Chicago, Ill.

"Several years ago we employed a Chinese student by the name of W. D. Thom, graduate of Ohio State University and who was connected with the Technical Department as chemist and metallurgist. Mr. Thom left the company about 1926, and returned to Canton, China. Since that time I have not heard from him.

"We have no objections to employing Chinese students at our Mansfield plant but at the present time, (December 27, 1927) there are no openings.".....Mr. F. L. Wolf, Technical Superintendent, Ohio Brass Co. Mansfield, Ohio.

"In the past we have taken care of a great many Chinese apprentices but at the present time (December 28, 1927) have none in our employ as our plants are operating at only part capacity.".....Mr. Charles M. Muchnic, Vice President, American Locomotive Sales Corporation, 30 Church St., New York.

"Replying to your several letters to different offices of the American Bridge Company in regard to Chinese students in our employ, will state that we have in our employ the following men :

"Y. Kwang, and Y. T. Chang ; 30 Church St., New York Office. T. C. Kiang, Nelson Y. Chiang, Marshall H. Chang, H. T. Ho, and Conant Lee ; Trenton Plant, Trenton, N. J.

"Kuei Hsum Wang, Chia Chi Li, and C. M. Chang ; Elmira Plant, Elmira, N. Y.

"C. T. Shih, T. S. Sih, Y. C. Mei, L. J. Sun, and C. Y. Hsu ; Pencoyd Plant, Pencoyd, (Philadelphia) Pa."

By Mr. J. E. Wadsworth, Division Engineer, American Bridge Company, 30 Church Street, New York.

(In addition to the list Mr. Wadsworth has stated their graduated institutions, dates entered the Company and present positions. Most of them have been described as "A very capable man" and "Service has been satisfactory"—Editor)

"This Company has conducted in the past, a special Apprentice Course in a limited way, but up to the present we have not had enrolled in this Special Apprentice Course and Chinese students.".....Mr. A. G. Williams, Manager, Export Department, American Steel Foundries, 410 Michigan Ave., Chicago, Illinois.

(In 1925 summer, Mr. H. O. Kung worked as a draftsman in the Engineering Department, Alliance Plant, Alliance, Ohio, of the above concern and he appreciated very much their nice treatment—Editor).

"We have no Chinese students in our employ at present and would further state that we have no prejudice against them in any way ; having had at least one young Chinese with us sometime ago.".....Mr. H. B. Oatley, Vice President, The Superheater Company, 17 East 42nd Street, New York.

"We have, in the past, had Chinese students in our course at Beloit, Wisconsin ; at the present time (December 28, 1927) there are none."

"We have placed your letter on file and in the event of it being possible, in the future, to take on any more students we will be glad to get in touch with you.".....Mr. E. M. Fish, Manager Foreign Division, Fairbanks, Morse & Co., 900 S. Wabash Ave., Chi.

"I have checked up this matter with our Production Department, and they inform me that sometime ago we had Chinese

students with us but at the present time (December 29, 1927) there are none.

"Insofar as Chinese students being admitted to our Works are concerned, would advise we have no objection whatever to taking them into our employ." Mr. S. G. Down, Vice President, Westinghouse Air Brake Co., Pittsburgh, Pa.

"We are continually endeavoring to get in touch with engineers of various qualifications, and from time to time openings present themselves due to the growth of the company, which permit us to make connections with such men as we have carefully investigated.

"Our plant is always open for inspection, any of your countrymen who happen to be in this vicinity and are interested in making an inspection of the plant and seeing demonstrations of machinery would be most welcome.".....General Manager, The Thew Shovel Co., Lorain, Ohio.

"At some time in the future we would be very glad to admit such students to our Engineering Department, but just at the present time (January 11, 1928) we are not in position to make any place for them in this department.".....Mr. T. W. Partt, Assistant to the President, Goodell-Pratt Co. Greenfield, Mass.

"Our Engineering Department is comparatively small and I doubt whether or not your students would gain experience of much value to them in our Department. We, however, have not been adverse to foreigners in our Engineering Division.".....Mr. Albert J. Bates, Jr. Secretary, Bates Expanded Steel Truss Co., East Chicago, Indiana.

"Replying to your letter of December 22nd regarding Chinese engineering students, would advise that the following Chinese are working in our Engineering Department :

Mr. C. M. Hu, Y. M. C. A. Sewickley, Pa.
Mr. H. W. Lo, 723 Third St., Ambridge, Pa."
From Mr. R. G. Manning, Engineer, Ambridge Plant, American Bridge Co., Ambridge, Pa.

MEMBERSHIP STATISTICS

THE CHINESE ENGINEERING SOCIETY
AMERICAN SECTION

Year	New members	Total Membership	Rate of increase
1918	25	25	
1919	60	85	240%
1920	49	134	57.6%
1921	5	139	3.7%
1922	70	209	50.3%
1923	45	254	21.5%
1924	69	323	27.1%
1925	68	391	21%
1926	25	416	6.4%
1927	16	432	3.8%
1928	18 plus (35)	(485)	(12 %)

THE DISTRIBUTION OF CHINESE STUDENTS (ENGINEERING)
IN AMERICA, 1928.

Boston	..	..	..	..	57
New York	..	..	..	..	28
Illinois Uni.	..	..	..	..	20
Cornell Uni.	..	..	..	..	17
Detroit	..	..	..	..	14
Purdue Uni.	..	..	..	..	12
Philadelphia	..	..	..	..	9
Pittsburgh	..	..	..	..	9
Ohio State	..	..	..	..	8
Washington State	..	..	..	..	8
Michigan State	..	..	..	..	7
Chicago	..	..	..	..	5
Trenton, N. J.	..	..	..	..	5
All others	..	..	..	..	56 Estimated
Total	..	..	..	..	255

Mr. Millard's Journalistic Methods

In a despatch to the *New York Herald Tribune*, Mr. Thomas Millard states as follows:—

"A dinner given for John Van A. MacMurray, the American Minister to China, here to-night under the auspices of the American Chamber of Commerce was both noteworthy and disappointing. It was noteworthy because it was revealed plainly as a framed up opportunity for those elements favoring foreign intervention in this country to exploit their thesis and exclude opposing opinions, and disappointing because Mr. MacMurray did not give the slightest indication of the Washington Government's policy with respect to the Chinese Nationalist régime and the questions interwoven therewith.

"The attendance was confined to Americans only, although previously it has been thought that some Chinese Nationalist officials would be invited."

Now, during the whole of that evening, there was not a single suggestion that anyone favored intervention. Only three speeches were delivered that evening and not one suggested intervention in China. Mr. Millard drags in the question of intervention by the forelocks and the *Herald Tribune* pays for the verbiage—for Mr. Millard's attempt to color the facts. His charge that there was a "frame-up" of some kind is important and serious, were it made by anyone else. Made by Mr. Millard, it lacks importance, for he has apparently been seeking for conspiracy where it did not exist. Mr. French and Judge Franklin, free, white and of age, are entitled to express their opinions without submitting to censorship just as Mr. Millard can send biased news stories to the *New York Herald Tribune* without submitting to censorship. There is a type of journalist, quite well known, who believes that he can slam and bang, attack and villify, everyone and anything, but who resents even the implication that he may be wrong, either because he does not know the facts, is incapable of understanding the facts, or because he wilfully deceives himself as to the facts, either through prejudice or because of dishonesty. We are not prepared to say why we believe Mr. Millard to be so generally wrong these days, as that is perhaps more a psychological than a political question and we are not psychologists. But he seems to strut the world, sore, bitter, angry—like one who is short of his vitamins.

Further in this despatch, Mr. Millard says:—

"Although many missionaries were present, no one representing their viewpoint was given an opportunity to speak, and therefore the occasion resulted in placing Mr. MacMurray in the position of seeming to sponsor sentiments distinctly unsympathetic to China's national aspirations."

Now, here again Mr. Millard drags in a wholly untrue situation. No missionaries had been invited to make speeches that evening. After Judge Franklin and Mr. French had delivered themselves of their opinions, no missionary asked to be permitted to make a speech. Had such a request been made, it would have been granted, because no one objects to listening to a missionary's defense of his opinions. But the missionaries were silent. No missionaries have since complained to the American Chamber of Commerce on the subject. No missionaries wrote to the local papers complaining. Surely, by February 28, the date that the *Herald Tribune* published Mr. Millard's despatch, no such complaint has been made officially or unofficially to the American Chamber of Commerce. How then, could Mr. Millard send such a statement to the *New York Herald Tribune*? That is, of course, not our business. He sent it and he is responsible for it.

The following day he sent a second cable, in which he says:—

"Strong objection has developed on the part of those American elements, especially missionaries and educators, who strongly opposed a strong-arm policy toward China as distinguished from the traditional hands-off policy pursued by the American Government, to the tone of the speeches delivered by C. H. French, chairman of the chamber, and C. H. Franklin, an American lawyer, both of whom favor intervention.

"The missionaries and others who share their views feel that they were placed in an invidious position, not having been warned and thinking that the occasion was merely a friendly meeting of members of the American community

with their minister, when all elements presumably would be given an opportunity to state their positions.

"Publication of all the speeches in full in the local press to-day also gave Chinese cause for wonderment. Two principal officials of the Nanking Government inquired if Minister MacMurray had seen copies of Messrs. French and Franklin's speeches beforehand, which, if he had, would imply that he approved their utterances. The information is, however, that Mr. MacMurray was not advised previously of the content of those speeches, which surprised him and made his position embarrassing before both the American missionaries and the Chinese Nationalists."

Now, the missionaries and educators, if they felt as Mr. Millard suggests they do, would have come forward and expressed themselves on the subject. They are not usually bashful. They generally say what they want to say. Why have they been so silent? And why does not Mr. Millard name the missionaries and educators? Why does he not quote them? It would be much more interesting to have their quoted opinions than Mr. Millard's generalizations, for after all, we know that he disliked what Mr. French and Judge Franklin said, but we do not know whether the missionaries and educators agreed with him. We only have his word for it. Furthermore, he quoted two Nationalist officials. He said that they disliked the speeches—again no names. Since when such secrecy! Who were these officials? Why did they not issue public statements? Again he said that they made inquiries as to whether Mr. MacMurray had seen the speeches beforehand. To whom did they address their inquiries? To the American Chamber of Commerce? To Mr. MacMurray? We believe not! Why then mention their inquiries without saying who made them and to whom they were made. There is something very queer in this mysterious journalism!

In the same telegram, Mr. Millard says:—

"To-day Mr. MacMurray had luncheon with General Huang Fu, the Nanking Foreign Minister; T. V. Soong, the Finance Minister; Quo Tai-chi, recently acting Foreign Minister and now the Shanghai Commissioner of Foreign Affairs, and other important Nationalists. It is understood that the occasion passed pleasantly, but without real confidence on either side, the Chinese wondering about Mr. MacMurray's sentiments toward the Nanking régime."

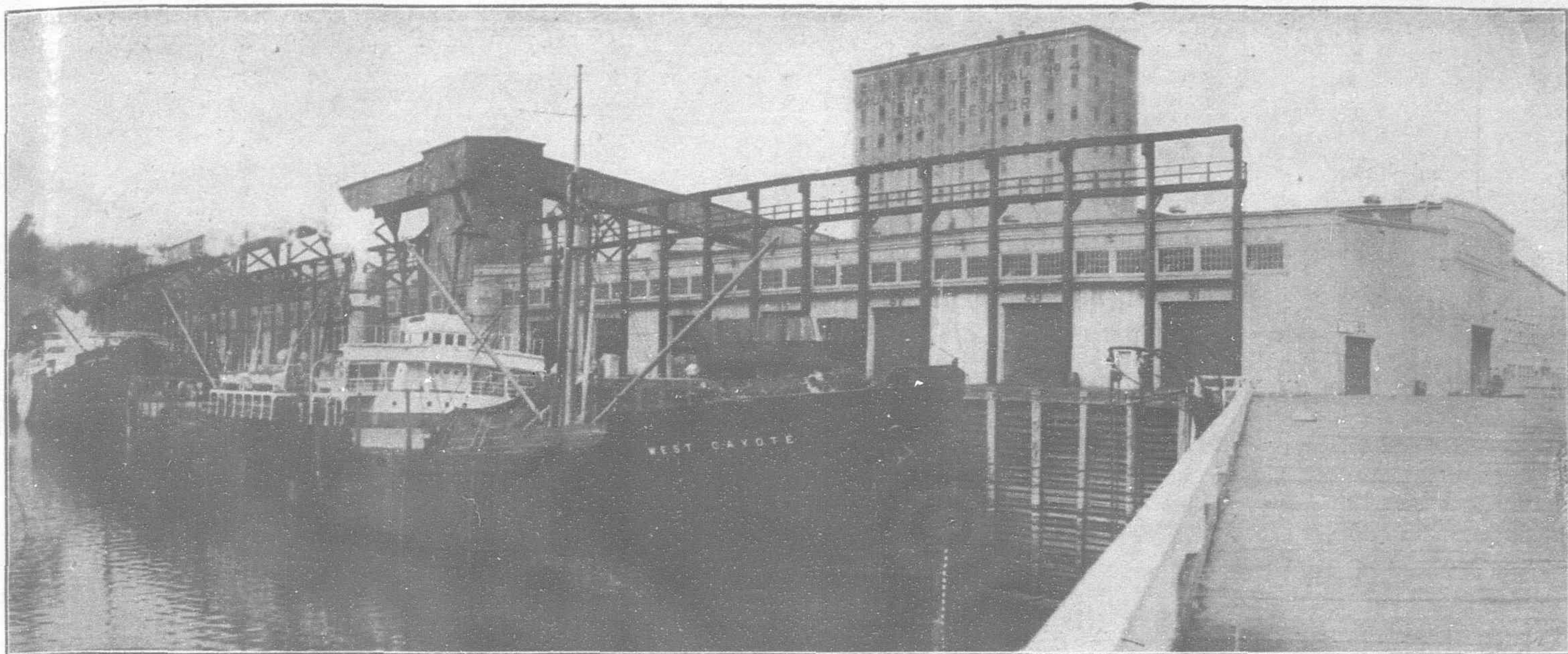
General Huang Fu was not present at this luncheon, in spite of Mr. Millard's statement that he was there. It was a private luncheon at the residence of Mr. T. V. Soong, Minister of Finance of the Nationalist Government and there were not many persons present as the words "other important Chinese nationalists" seem to imply. Only one unofficial foreigner was there. What was said on this occasion need not be repeated because one does not repeat conversations which take place at a private luncheon party. It was pleasant enough, as Mr. Millard suggests and as to real confidence—nothing that happened at this party involved "confidence" of any nature. Mr. Soong and Mr. MacMurray are old friends, the food was good and some of the stories excellent.

Furthermore, Mr. Millard said:—

"Opinion in the American community here about the effects and probably eventual results of Mr. MacMurray's visit is divided as a result of the speeches at last night's dinner, but it is hoped that any misunderstandings may be smoothed out later."

The settlement of the Nanking Incident referred to elsewhere in this issue fully answered Mr. Millard's worries.

The trouble with Mr. Thomas F. Millard is that he does not laugh enough, at himself, his friends and his imaginary enemies. He takes everything so seriously that he turns even a friendly luncheon into a major tragedy. After all, the world moves more by laughter than by the philosophic worries of the pessimistic. Mr. Millard would do well to investigate the quality of the moon's green cheese, and laugh. It would do him a world of good and make those who really like him but who regret that he is so bitter and antagonistic, a little less dissatisfied. Cheer up, Tom, the worst is yet to come!



State S.S. Company's Liner "West Cayote" at Portland, Home Port

Reorganization of Trans-Pacific Cargo Service

Increased American Shipping with Oriental Ports: New Line Organized

THE first three months of this year saw some of the most momentous changes that have ever taken place in the field of trans-Pacific cargo-service commerce, which were:

(1) The complete retirement of the United States Government, through the U.S. Shipping Board, from the ownership of the three remaining services to the Orient from the Pacific range, (2) the purchase of these three lines, comprised of 38 cargo vessels aggregating a deadweight tonnage of approximately 350,000 tons, by three private and newly-organized steamship companies located in three separate ports on the U.S. Pacific Coast, (3) the appointment of a common agent to represent these three companies in the Orient, and (4) the entrance into the trans-Pacific field of a new and heavily-financed line of five 10,000 ton steamships flying the American flag.

Pursuing the long-avowed intention to surrender "ultimately" and by degrees the whole of the Government-owned merchant marine fleet to private ownership, the U.S. Shipping Board announced in January, through the Merchant Fleet Corporation, that on February 10, 1928, bids would be received for the sale of the American Oriental Mail Line of seven steamships, the Oregon Oriental Line of 11 steamships, and the American-Australia Orient Line of 20 steamships.

On March 10, when the bids were opened, a newly-organized Tacoma, Washington, group, known as the Tacoma Oriental Steamship Company, was awarded the American Oriental Mail Line formerly operated for the U.S. Shipping Board by the Admiral Oriental Line (Dollar interests) from Seattle to Japan, North China, South

China, the Philippine Islands, and back to Seattle by way of San Francisco.

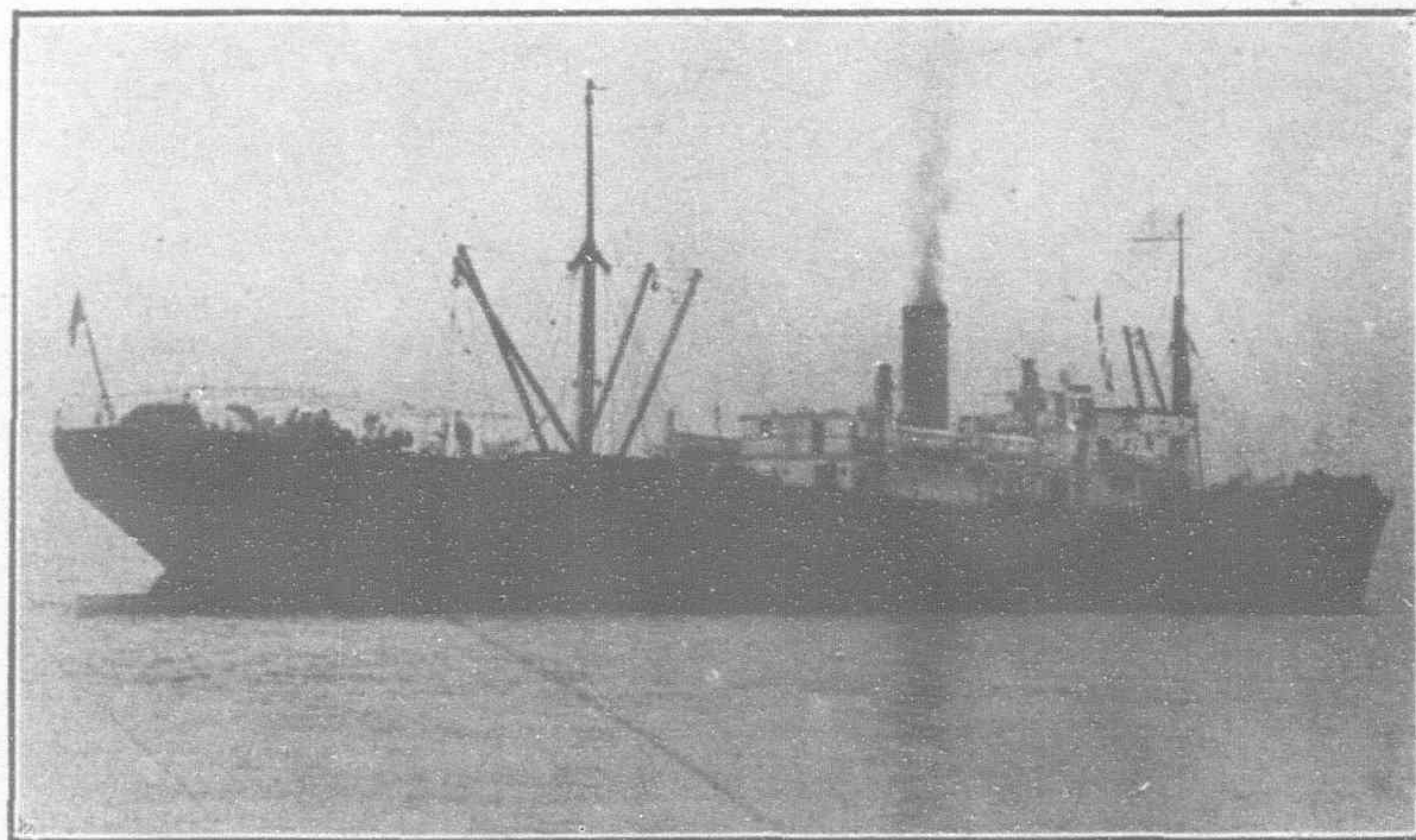
Portland, Oregon, interests, banded together as the State Steamship Company, won the Oregon Oriental Line which had been operated for the Shipping Board by the Columbia Pacific Shipping Company (Portland) out of Columbia River ports, particularly Portland, to Japan, China, and the Philippines.

In San Francisco the newly-organized Oceanic & Orient Navigation Company, set up jointly by the American-Hawaiian Steamship Company and the Matson Navigation Company, received the American-Australia Orient Line operated until that time for the Shipping Board by Swayne & Hoyt, Inc. (San Francisco), in two cargo-services out of Pacific Coast ports, one to New Zealand and Australia, the other to Japan, China, and the Philippines.

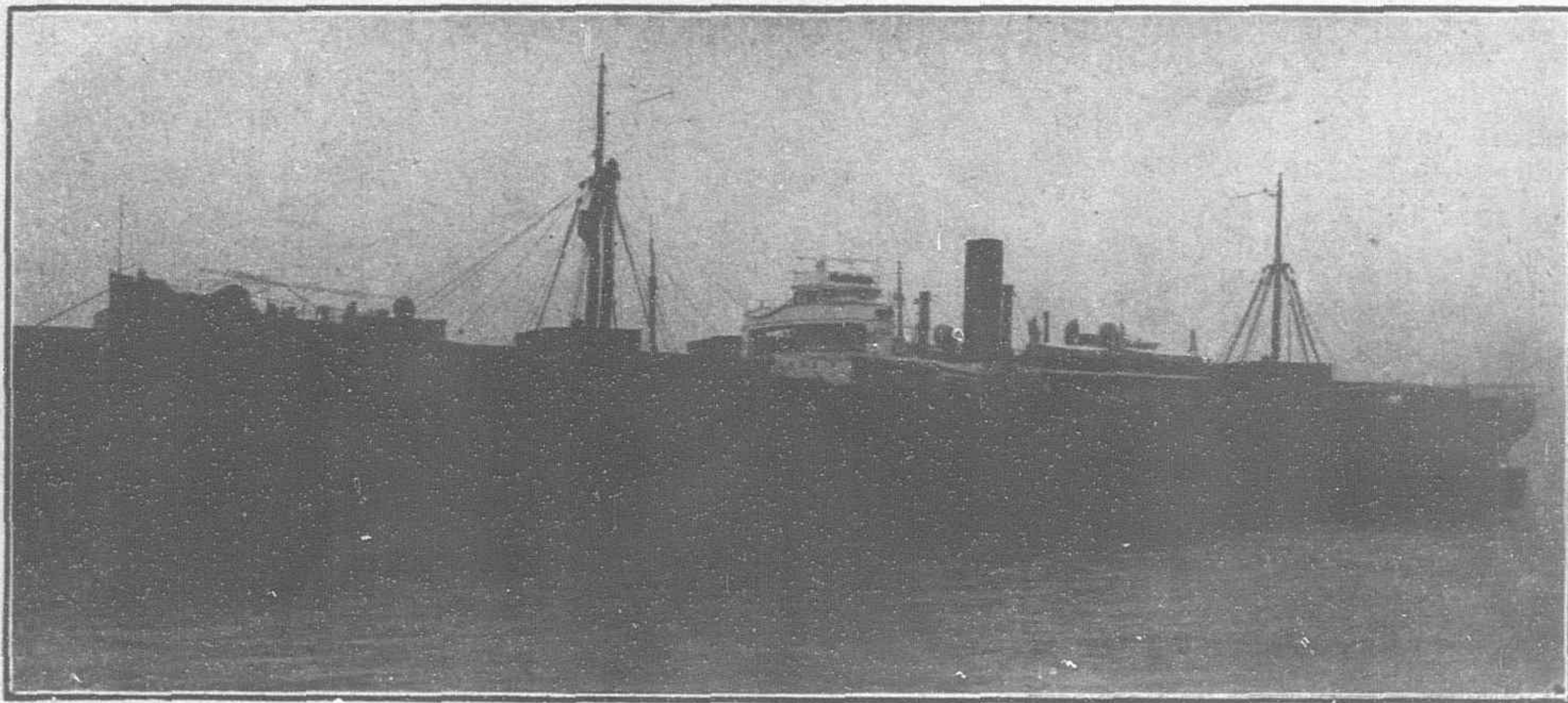
Hardly had time been given for the signatures to dry on documents which consummated the three Shipping Board sales, before the Dollar interests, owners of the Admiral Oriental Line which operate the American Mail Line and operated the American Oriental Mail Line before its sale to the Tacoma Oriental Steamship

Company, began a move to preserve and fortify their position in the Puget Sound-Oriental section. They had been out-bid by the Tacoma group in bids for the American Oriental Mail Line. Another consideration was the fact that, by the sale, Seattle lost to a rival, Tacoma, the one line that had plied between either of these ports and the Orient until that time. Strong requests from the Seattle Chamber of Commerce came to the Dollar interests for the continuance of the Seattle-to-the-Orient service.

Acting swiftly, conferences were held in San Francisco, at



The S.S. "Cuprum" Now Owned by Tacoma Interests



S.S. "West Cadron" at a Japanese Port

Dollar headquarters, which ended with the announcement by the Admiral Oriental Line that the cargo-service from Seattle to Japan, North China, South China, and the Philippines, formerly maintained by the seven steamers in the American Oriental Mail Line, would be continued with a fleet of five 10,000 ton steamers. These boats were the steamships Margaret Dollar, Melville Dollar, Stuart Dollar, Diana Dollar, and Stanley Dollar, which had been engaged in intercoastal trade. Additions to this fleet would be made in the future, it was announced.

The Seattle Chamber of Commerce strongly endorsed the new arrangement, and the Admiral Oriental Line, in turn, declared that the vessels in the new fleet would make Seattle their home port, and that they would be manned and supplied completely from that point. The fleet, it was announced, would operate under the American Mail Line flag, in connection with, and as an auxiliary service to, the American Mail Line passenger vessels.

Thus it was that an arrangement, new on the Pacific Coast, saw each of four sea-board cities become home port for a trans-Pacific cargo-service fleet: Tacoma, Portland, San Francisco, and Seattle.

Three Lines Appoint Common Agent

Consequent to these deals, the three newly-organized companies on the U.S. Pacific Coast proceeded, one after the other, to name the Columbia Pacific Shipping Company as their representative in the Orient. It was a foregone conclusion that the Columbia Pacific organization would serve the State Steamship Company in the Far East, due to the link between the two companies in financial support and officers. The Tacoma Oriental Steamship Company shortly chose the Columbia Pacific shippers to represent it in the Far East. Though it was first decided by officials of the new Oceanic & Oriental Navigation Company to place the operation of the New Zealand-Australia division in the hands of the Matson Navigation Company, and the operation of the Orient division with the American-Hawaiian Steamship Company, the latter named the Columbia Pacific Shipping Company to represent it beyond Honolulu and in the Far East.

Within the next few weeks the relationships between the long existent Columbia Pacific Shipping Company and the newly-organized State Steamship Company, will be so adjusted that the latter company, and not the former, will represent itself, the Tacoma Oriental Steamship Company, and the Oceanic & Oriental Navigation Company, in the Far East. Presumably, behind the new arrangement is the intention to restrict to the Pacific Coast the use of the Columbia Pacific Shipping Company as a name for the Portland interests, and a wish on the part of these Portland interests, in all dealings abroad, to be known as the State Steamship Company.

With the tremendous increase in duties devolving upon the Shanghai organization as a result of the recent appointments, it has been decided to increase both facilities and staff in more spacious quarters on the "Bund-side" of the first floor in the new Sassoon building rising at Nanking Road and the Bund. As the State

Steamship Company, and no longer as the Columbia Pacific Shipping Company, the representatives of the Portland interests will move into the recently-leased premises as soon as possible. Completion of the building is expected in June or July.

No great changes will take place in the Far Eastern personnel of the Portland interests' body of representatives. Mr. Carl L. Seitz will remain as the attorney and general representative, while Mr. L.R. Schinazi will continue actively to handle the agency duties in the Shanghai offices. With the expected retirement of Swayne & Hoyt, Inc., from business, a few members of that organization have joined the State Steamship Company in the Far East. These include Mr. G. P. Bradford, general agent at Manila, who formerly filled this post for Swayne & Hoyt. Mr. Edward W. Latie, formerly the Columbia Pacific general agent at Manila, has returned to the United States to fill a position in the home organization.

Mr. A. L. Thompson becomes the general agent of the State Steamship Company at Hongkong, following the return to America of Mr. H.S. Zumwalt, who once held that post. Mr. Thompson was formerly the Columbia Pacific agent at Yokohama. Mr. D. D. Duffy, an experienced Pacific Coast traffic man, has been appointed as manager at Yokohama of the State Steamship Company.

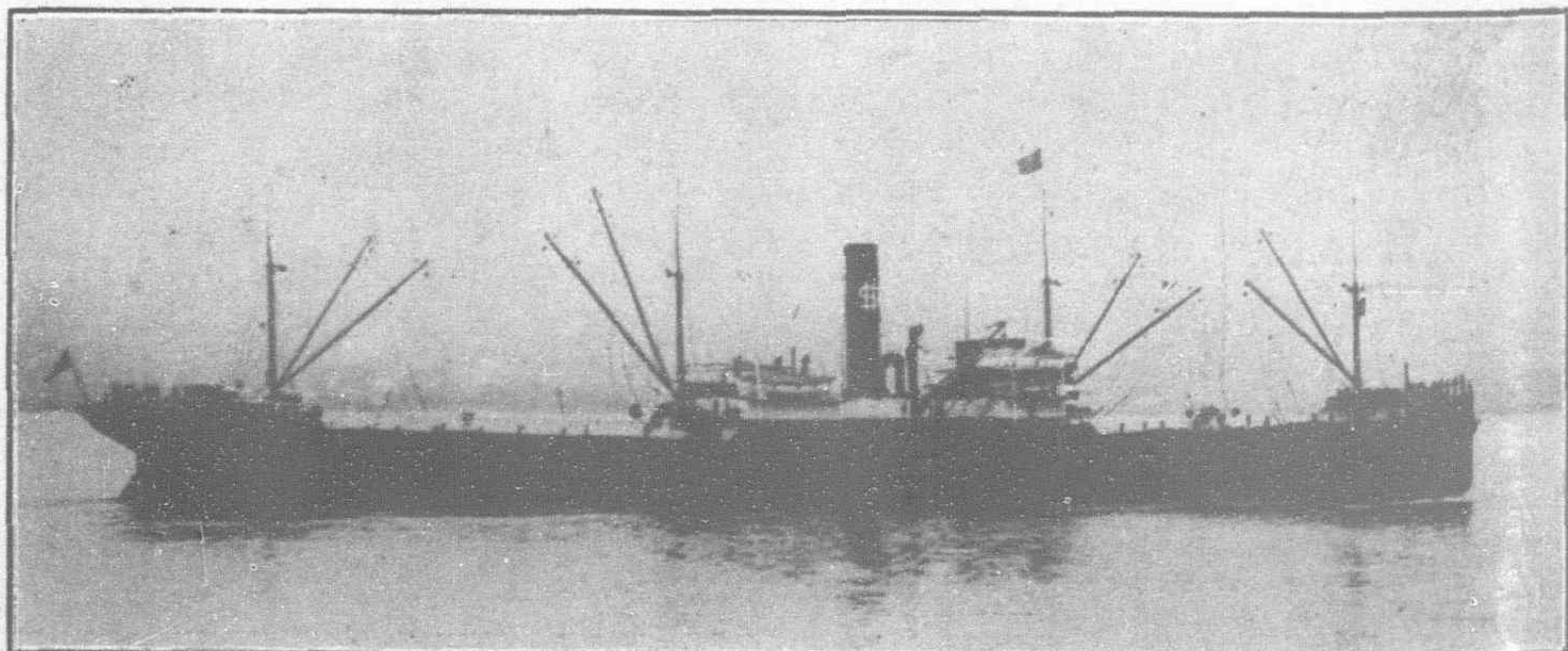
Mr. William H. Hunt, as general agent for Japan, continues in charge at Kobe with a staff which will be increased. The State Steamship Company has leased at Kobe the former offices of the Pacific Mail Steamship Company located favorably for shipping interests, opposite the Oriental Hotel.

Under the direction of Mr. N.W. Gatrell, the State Steamship Company has just opened its own office at Tientsin. The Columbia Pacific was formerly represented there by the China Import & Export Lumber Company, which will continue to represent the Portland interests at Tsingtao.

An addition to the Shanghai office of the State Steamship Company will be made shortly in a new marine superintendent, who will come from the States. His job will be to over-see repairs and upkeep on State Steamship Company vessels, and other boats for which the State Steamship Company will be agents, in Far Eastern waters.

Business Men Form Tacoma Company

Organization of the Tacoma Oriental Steamship Company with Mr. Samuel Jackson, president of the National Bank of Tacoma, as its head, was affected at a meeting of the stockholders shortly after the purchase of the American Oriental Mail Line. Mr. John S. Baker and Mr. George P. Wright were named vice-presidents; Mr. S. J. Maxwell, secretary, and Mr. J. F. Hickey, treasurer. Those named to the board of directors were: Mr. Henry H. Rhodes, Jr., Mr. J. A. Eves, and Mr. Ralph H. Shaffer, elected for one-year terms; Mr. Ira Bronson, Mr. James G. Dickson, and Mr. J. F. Hickey, two-year terms; and Mr. John S. Baker, Mr. George P. Wright, and Mr. Samuel Jackson, three-year terms. Mr. Baker, Tacoma capitalist, was later named chairman of the board of directors. The firm of Hayden, Langhorne & Metzger were chosen



S.S. "Melville Dollar," American Mail Line Freighter Now in Orient

to act as counsel for the new company, which is incorporated under the laws of Nevada with a capitalization of \$500,000

With the exception of Mr. Bronson, all officers and directors of the new organization are prominent Tacoma business men. Mr. Bronson is president of the Puget Sound Navigation Company of Seattle.

The seven steamers taken over by the Tacoma Oriental Steamship Company, and their deadweight tonnage, are: City of Spokane, 9,695 tons; West Himrod, 9,950 tons; Cuprum, 9,630 tons; Eldridge, 10,019 tons; Edmore, 9,962 tons; West Ison, 8,720 tons; Wheatland Montana, 9,962 tons. The names of these vessels will be changed to City of Tacoma, City of Seattle, City of Olympia, City of Everett, City of Bellingham, and Cities of Gray's Harbor, while the City of Spokane will retain her present name. The distribution of these names to the fleet has not been made known as yet to the Far Eastern agents. These vessels were formerly operated for the U.S. Shipping Board in conjunction with the five passenger-cargo ships which were sold to the Admiral Oriental Line and are now operated as the American Mail Line passenger service. The aggregate tonnage of the seven cargo boats is 66,370 deadweight tons.

Under the sales arrangements, it becomes necessary for the Tacoma Oriental Steamship Company to make 12 round voyages out of Seattle to the Orient. The first of the seven freighters to be taken over, the Cuprum, went into the hands of her new owners about April 15. She will sail from Tacoma on May 15, touching Vancouver before heading for the Orient, where ports of call, in Japan, will include Yokohama and Kobe, and in North China: Shanghai, Tsingtao, Taku Bar, and Dairen. Headed for the northern ports, the City of Spokane will follow from Tacoma on June 15, and the Wheatland Montana on July 15. Headed for the South China ports of Shanghai and Hongkong, and the Philippine ports of Manila, Iloilo, Cebu, and Zamboanga, the West Himrod will sail on May 25, the Edmore on June 25, the Eldridge on July 30, and the West Ison on August 25.

A report on the cargo carried in 1927 by the seven ships in the old American Oriental Mail Line was forwarded recently by Mayor M. G. Tennant, of Tacoma, to Mr. W. G. Royland, Tacoma harbor master. The report showed that the Cuprum last year took 5,405 tons from Tacoma, valued at \$246,506. The City of Spokane lifted 10,841 tons, estimated to value \$127,299. The Eldridge lifted 13,273 tons, valued at \$294,935, while the Edmore took 11,509 tons, with a value of \$456,942. The West Ison carried 9,456 tons of cargo, while the West Himrod took 3,316 tons. These cargoes were valued at \$157,298 and \$135,343, respectively. The Wheatland Montana loaded a total of 13,505 tons last year, with a value of \$143,431. The seven carriers, the report shows, carried a total of 87,603 tons of cargo, with an aggregate value of \$1,571,654.

Dawson Organizes Portland Group

Mr. K.D. Dawson, of Portland, was sponsor of the second organization in the recent turn-overs. Mr. Dawson was, and remains, vice-president and general manager of the Columbia Pacific Shipping Company. This organization had, since 1919, operated for the U.S. Shipping Board the Oregon Oriental Line of vessels. Mr. Dawson organized the State Steamship Company to purchase this line, becoming vice-president and general manager of the new company, and taking with him into the organization Mr. J. C. Ainsworth, president of the Columbia Pacific Shipping Company, and several other of his associates.

New names are being given to the eleven steamers taken over by the Portland group. Named after States in the Union, the Oakridge becomes the Oregon, 9,400 tons; the West Cayote the Washington, 8,542 tons; the West Hixton the California, 8,366 tons; the West Holbrook the Michigan, 8,366 tons; the West Kader the New York, 8,585 tons; the Las Vegas the Illinois, 8,394 tons; the West Niger the Nevada, 8,542 tons; the West O'Rowa the Kentucky, 8,366 tons; the West Nomentum the Pennsylvania, 8,559 tons; the West Cadron the Iowa, 8,584 tons; the Wawalona the Wisconsin, 9,414 tons. This line aggregates in tonnage 95,117 deadweight tons.

As the Oregon Oriental Line, this fleet was operated out of Columbia River ports, particularly Portland, to Japan, China, and the Philippines, and according to the arrangements made at the sale of the eleven steamers the State Steamship Company must maintain 18 round voyages to the Orient.

The first of the 11 freighters to be taken over by the State Steamship Company will be the Oregon, which will sail from Portland on April 30. The Wisconsin will sail for South China ports and the Philippines on May 15, to be followed by the New York on May 30; the Michigan on June 15; the Nevada on June 30; the Pennsylvania on July 15; the Washington on July 30; the Iowa on August 5. Freighters which will sail for Japan and North China ports will be the California on May 5; the Illinois on June 5; the West O'Rowa on July 5. All these steamers will return to Portland by way of San Francisco.

Portland citizens saw fit to celebrate recently the acquisition of the Oregon-Oriental Line by local interests. A big fete was held. Acting Mayor C.A. Bigelow telegraphed invitations to Mr. T.V. O'Connor, chairman of the U.S. Shipping Board, and Mr. Jefferson Myers, Oregon member of the Board. The Portland Chamber of Commerce took an active part in the celebration.

In San Francisco the newly-organized Oceanic & Orient Navigation Company, set up by the American-Hawaiian Steamship Company, and the Matson Navigation Company to operate the American-Australia Orient Line which they purchased from the Shipping Board, is proceeding with its plans for the operation by the American-Hawaiian concern of the service to the Orient, and for the operation by the Matson organization of the New Zealand-Australia service.

Officers of the San Francisco company have been named: president, Mr. Warren D. Clark, vice-president, American-Hawaiian Steamship Company; chairman of the board, Mr. E.D. Tenney, chairman of the board of the Matson Navigation Company; vice-presidents, Mr. Roger D. Lapham and Mr. William P. Roth, presidents, respectively, of the American-Hawaiian Steamship Company and the Matson Navigation Company; directors, Mr. John E. Cushing, Mr. Andrew Welch, Mr. A. C. Diericx, Mr. Wallace M. Alexander, Mr. Henry Rosenfeldt, Mr. Thomas G. Plant, Mr. Charles W. McIntosh, Mr. Hugh Gallagher, Mr. A.F. Bailey, and Mr. W.J. Mahoney. Mr. Railey is named as secretary and Mr. Mahoney treasurer of the new organization.

Mr. Roger D. Lapham, president of the American-Hawaiian Steamship Company, in a New York interview, said that purchase of the Shipping Board service demonstrated the faith of his company and the Matson interests in the future of Pacific trade.

Under the arrangements made in this sale, the Oceanic & Oriental Navigation Company must maintain annually 12 round voyages from the Pacific Coast to New Zealand and Australia, and 18 round voyages to Japan, China, and the Philippines. Swayne & Hoyt, Inc., of San Francisco, were formerly operators of this line of 20 cargo ships, aggregating about 184,865 deadweight tons.

New O. & O. Recalls Line of Old

Nine ships in the Oceanic & Oriental Navigation Company's fleet will visit Oriental ports, and 11 will continue the service to New Zealand and Australia. All the boats will touch at Los Angeles when sailing to and from San Francisco. Of the nine ships destined for the Orient, a portion will head for Japan and North China ports, and another portion to South China ports and the Philippines.

The first of the boats to be directed to the North will be the West Chopaka, 10,970 tons, on June 5, to be followed by the West Faralon, on June 25, and the West Prospect, 10,981 tons, on July 25. Headed for the South, the Bearport 9,422 tons, will sail on May 10, the Crisfield on June 10, and the Pawlet, 9,417 tons, and the Elkridge, 9,704 tons, will fill the sailing dates of July 10 and August 10. The West Carmona, 8,585 tons, and the West Sequana, 8,560 tons, will fill later sailing dates to the Orient.

The eleven vessels in the New Zealand-Australia division will consist of the steamships: West Elcajon, 8,595 tons; West Nivaria, 8,558 tons; West Conob, 8,366 tons; West Calera, 8,584 tons; Montague, 9,418 tons; Dewey, 8,543 tons; West Ivan, 8,570 tons; Crosskeys; West Henshaw, 8,541 tons; West Cajoot, 8,366 tons; and West Islip, 8,786 tons.

Selection by the American-Hawaiian and Matson interests of the name Oceanic Oriental Navigation Company as the operating cognomen, recalls to Far Eastern shipping men the famous Occidental & Oriental Steamship Company which plied the Pacific years ago. The initials O. & O., conjuring an euphonious and familiar impression, were known far and wide, similarly to the P. & O.

The 38 vessels sold by the U.S. Shipping Board in the recent turn-over aggregate 336,352 deadweight tons. The sale cuts the number of Shipping Board vessels by 4.5 per cent.—from 822 to 784. The deadweight tonnage of the entire fleet, formerly 6,482,868 tons, has been cut about 4.5 per cent. to 6,146,516 tons.

Operating under the American Mail Line flag, the new freight service between the United States and the Orient has been organized, and two of the vessels thrown into this range are already pursuing schedule. The Melville Dollar, one of the new American Mail Line freighters, sailed March 18 from Seattle and Puget Sound for Japan and North China ports. It was due to reach Shanghai on April 21. The Stuart Dollar left the U.S. ports on April 15, and is due to arrive at Shanghai on May 12.

Mr. W. T. Goodwin former representative of the Robert Dollar Company at Hankow, will be the general manager of the new American Mail Line service in the Far East, with offices in Shanghai at 3 Canton Road, where he has assumed his duties.

From the start, the new American Mail Line will maintain a monthly service to Japan and North China ports, and a monthly service to South China ports and the Philippines. Shanghai, Chefoo, Tsingtao, Dairen, and Taku Bar to the North, and Shanghai, Amoy, Hongkong, Manila, Cebu, and Iloilo to the South, will be ports of call.

By the addition of the freight service, the American Mail Line fleet increases to ten ships. Five passenger boats have been plying, heretofore, under the American Mail Line flag. They are the steamships: President Jackson, President McKinley, President Madison, President Grant, President Jefferson.

One U.S. Shipping Board line of boats still touches ports in the Far East, but it does not ship back to the Pacific Coast. This is the American Pioneer Line, which consists of steamers that sail from North Atlantic and Gulf ports to Japan, China, the Philippines, and Dutch East Indies, and is operated by the Atlantic, Gulf & Oriental Steamship Company, Inc., of New York City.

During 1927, twenty-seven voyages, from 25,000 to 30,000 miles in length, were made by the 16 steel cargo steamers and one motor ship in the American Pioneer Line. Their first port of call, after the Panama Canal on the westward trip, is Honolulu. Beyond that point, westward bound ships in the fleet alternate in heading for Northern and Southern ports. The first include Yokohama, Kobe, Chemulpo, Dairen, Taku Bar, Tsingtao, Shanghai, and Hongkong. The second include Hongkong, Manila, Iloilo, Cebu, Singapore, Belawan, Deli, Batavia, Samarang, and Surabaya.

Because this U.S. Shipping Board line still plies in Far Eastern waters, present representatives of the Board in the Far East will remain at their posts for the time. These include Mr. R.C. Morton, director for the Orient, with offices at Manila; Mr. William P. Hunt, agent for Shanghai; Mr. A.H. Henry, representative at Hongkong; and Mr. D. Thornton, general agent for Japan, at Kobe. Besides this personnel, the Board has two engineers in the Orient, one at Manila and the other at Kobe.

Foresee Fight Between Four Lines

Independent observers see the lines tightened as a result of the sale by the U.S. Shipping Board of the three remaining trans-Pacific all-cargo services, and a picture wherein four strong groups will vie for trade between Pacific Coast ports and Oriental marts, bringing about a heightening competition and more persistent rivalry than was exhibited under Government operation, coupled with improved service and firmer rates.

As to the competition likely to result, John E. Cushing, a director in the new Oceanic & Oriental Navigation Company, declared late in 1927: "Pacific Coast shipping in all directions seems to be forging slowly but surely ahead, and if, as now seems likely, the year 1928 marks the end of Government operation on the Pacific, we will have taken another distinct forward stride."

Captain Robert Dollar, president of the Dollar Steamship Company, and who is now in the Orient, is reported to have said that he "felt bold enough to say that on the Pacific Coast and ocean we can expect a very favorable trade almost if not up to 1929."

"There will be no rate war," declares Mr. L.R. Schinazi, agent of the State Steamship Company with offices at Shanghai. Co-operation, co-ordination, and service will be the motto of the new shipping lines at the start of this new era in trans-Pacific shipping. There is business enough for all. It will be up to the American services to satisfy their supporters. Thus may they hope to carry

their fair share of trans-Pacific cargo. The three cargo-services just sold by the U.S. Shipping Board can be made to pay.

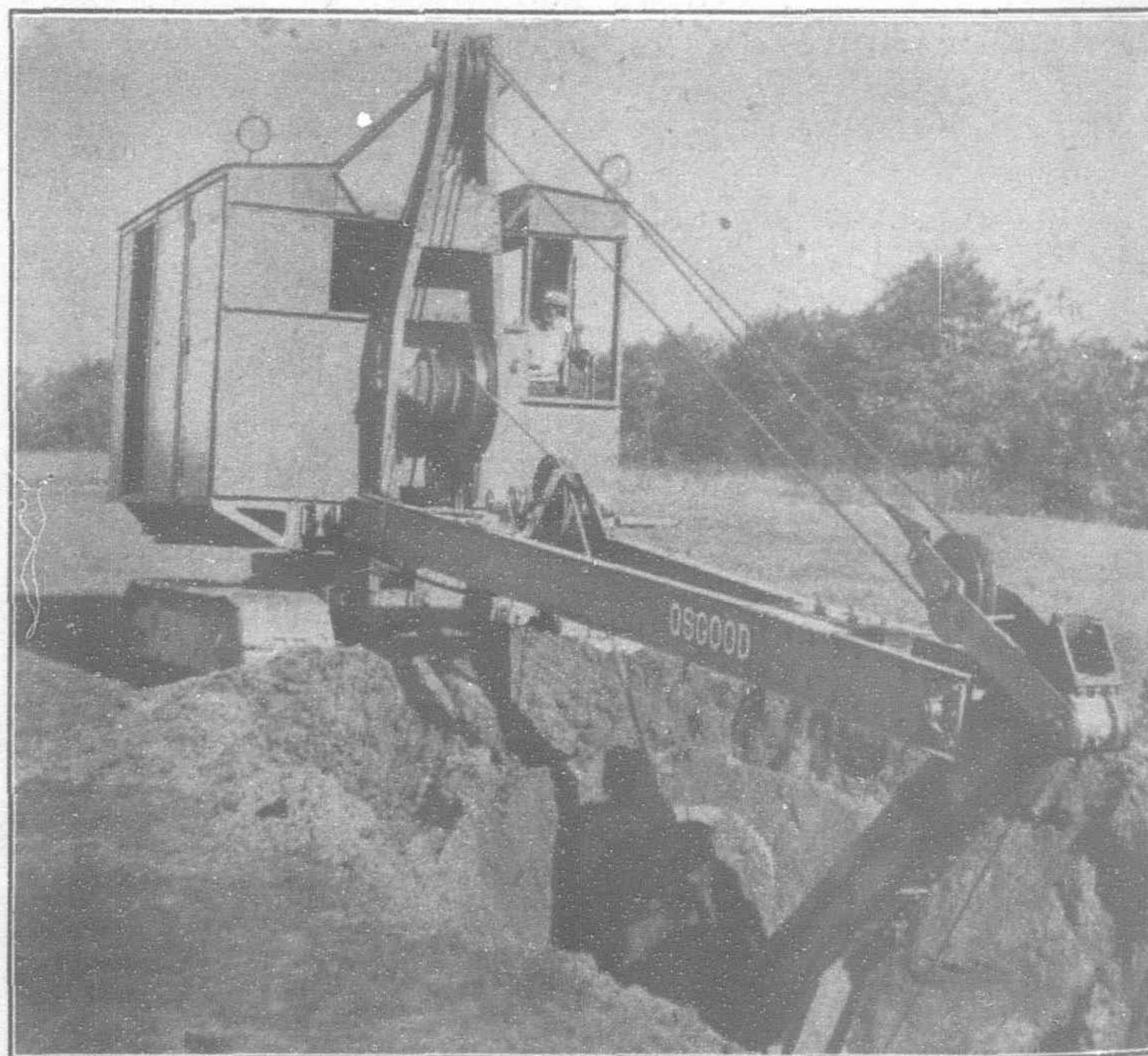
"What is going to happen as far as the State Steamship company is concerned," Mr. Schinazi continues, "representing itself and the two other newly-organized companies, is that they are going to be able to provide three sailings per month from North China ports, three sailings per month from South China ports, and from four to six sailings per month from Shanghai. This service will last throughout all seasons of the year, and will far out-strip anything a competing line of cargo-vessels can provide in touching Japan, North China, South China, and the Philippines, for frequency, regularity, and promptness of calls.

"Nor is this the only exceptional service that the State Steamship Company will be able soon to offer. Arrangements are now in progress that will make possible the issuing of a through bill of lading from any point in the United States to any port on the Yangtze River up as far as Chungking. The boats that connect with the vessels touching at Shanghai will be those of the China Import & Export Lumber Company which ply the Lower Yangtze, and those of the Yangtze Rapid Steamship Company from Hankow to Chungking. Thus a shipper in New York City, Chicago, or anywhere else in America, will be able shortly to dispatch shipments into the heart of China—on a through bill of lading.

"Particularly fortunate is the State Steamship Company, too, in the fact that its relationship with the China Import & Export Lumber Company is such that vessels in that organization's fleet, plying the Yangtze, can serve as feeders to the boats which call at Shanghai and are either owned by the State Steamship Company or represented by that organization in the Orient."

A Trench Digger

THE photograph below shows an Osgood 1-yd. machine equipped with back hoe attachment. With this attachment it is possible to dig trenches or sewer excavation and keep the machine on solid ground ahead of the excavation at all times. The differential drum arrangement used on the Osgood Back Hoe gives an extremely heavy cutting power to the bucket and it is possible to excavate hard material that under ordinary circumstances would have to be shot.



For over fifty years Osgood has been producing reliable excavating machinery.

In 1874 there were already more than 500 Osgood Crane type dredges in the field. These were designed by Mr. Jason C. Osgood of Troy, New York, who had been interested in various types of excavators since 1840.

A few years later Mr. Ralph R. Osgood a nephew of the above took over the active work of the company, and in 1882 he became associated with Mr. James MacNaughton of Albany, New York, under the firm name of Osgood & MacNaughton.

This organization moved their plant to Albany, New York, the same year and began the construction of many different types of excavating equipment, furnishing nine of the largest steam shovels used in the construction of the Panama Canal.

By 1890 they were manufacturing three sizes of railroad type shovels ranging from 100 to 300 cu. yds. capacity.

A short time later the Company began the manufacturing of a revolving steam shovel, its capacity was 50 cu. yds. per hour.

This early effort, crude as it was, contained a number of the

basic principles now found on revolving shovels.

In 1884 the first drag-line was made, and in 1889 the first electric shovel.

In 1910 the present Osgood Company was formed and was known as the Marion Shovel and Dredge Company, at Marion, Ohio. The officers of this Company shortly thereafter recognized the valuable assets of The Osgood Dredge Company at Albany and purchased it outright.

To-day The Osgood Company is one of the leading manufacturers of excavating machinery, producing high grade equipment, designed by engineers of long experience. This is the reason why Osgood machines are holding up and are giving satisfaction everywhere.

A Chinese Inspection Launch*

Re-engining a 16-year Old Craft

IN view of the extraordinary facilities for water transport with which nature has endowed China, apart from the large network of canals, it is not surprising that, even in the face of political difficulties, the number of motor boats in use in this part of the world is rapidly increasing.

It is a fallacy to suppose that vessels owned by native Chinese are necessarily not the most up-to-date craft, although imitation of the modern motor craft of large British and American firms may possibly have something to do with this matter.

Many years ago the Asiatic Petroleum Co., Shanghai, put into service the 66-ft. inspection launch "Kwang Su." This boat measures 60 ft. between perpendiculars, the moulded breadth being 11 ft., the beam at the low waterline measuring 10 ft. 6 ins., whilst the moulded depth is 5 ft. 3 ins. and the draught 4 ft. 3 ins. This craft has been in constant service up to a recent date, when it was decided to replace the pair of 48 h.p. Gardner paraffin engines, with which the boat was originally equipped, by two Gardner semi-Diesel motors of equal power. This course was partly dictated by reason of economy, for the original engines still have several years of life in them; this is an interesting example of the fact that in certain cases it pays to replace engines running on petrol or paraffin by others operating on heavier and cheaper fuel.

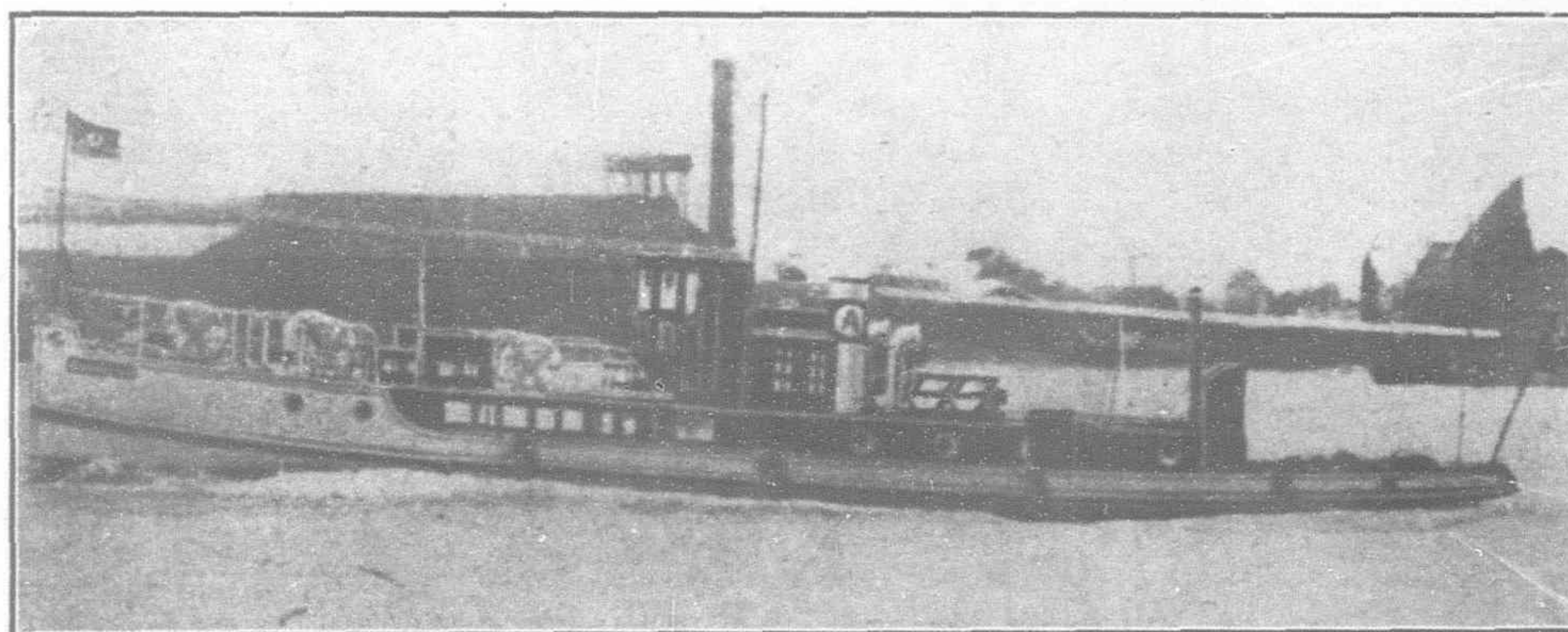
It will be seen from the engine-room plans which are reproduced that the motors are handed, whilst the installation has been well

arranged. The exhaust pipes lead up to a single silencer utilized for both engines, the final outlet being by way of a small funnel. In order to maintain the temperature of the silencer at a reasonably low level the circulating water is turned into it.

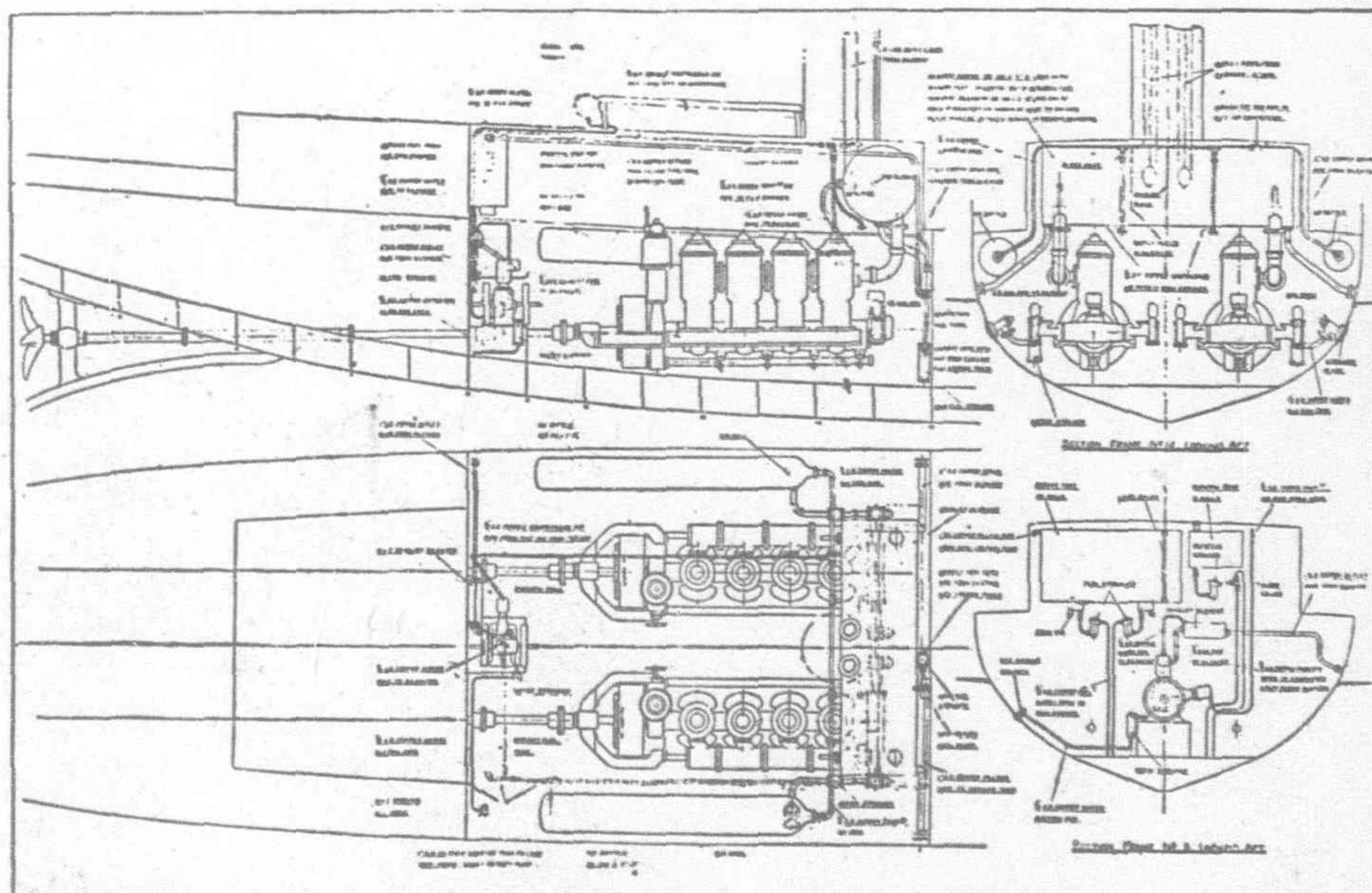
The motors are of the direct reversing type, no reverse gears therefore being supplied, although each engine is furnished with a clutch, which is incorporated partly within the flywheel. The system of reversal by means of compressed air is that ordinarily adopted with Gardner semi-Diesel motors.

At the aft end of the engine-room a supplementary motor-driven air compressor is provided, although each engine is furnished with independent compressing plant. A service fuel tank of 50 gallons capacity is placed at the forward end of the engine-room, and adjacent is a 6-gallon paraffin tank intended to furnish fuel to the engine of the auxiliary compressor. The starting air bottles are placed horizontally, one at each side of the engine-room. Other details regarding the layout are evident from the plans.

The work of installing the new motors was recently completed, and on trials a mean speed of 10.53 knots resulted. Incidentally, during the transfer of the new engines from the stores of the Asiatic Petroleum Co. to a local junk the port engine fell overboard and lay at the bottom of the river for four days. Apparently it came to no harm and no difficulty was experienced in starting it up.



"Kwang Su," the Machinery of which has just been Replaced with two 40 h.p. semi-Diesel Engines



Plans of the Machinery Layout

"The Subsidiary Enterprises of the South Manchuria Railway"

By Henry W. Kinney

ANTIL a few decades ago, Manchuria was industrially in a very primitive state. It has become important partly through introduction of modern machinery and methods for handling products which had in the past been manufactured by very crude and wasteful process, and partly by the establishment of numerous new industries by which use is now being made of raw materials which formerly were not used at all.

In this work the South Manchuria Railway has taken an outstanding part by the establishment of various research and experimental institutions, such as the Central Laboratory and Geological Institute in Dairen and others. Numerous scientists in its employ have combed Manchuria in search of materials which might be manufactured profitably, and have developed manufacturing processes. In many cases the company has been the pioneer in establishing factories in which new industries have been given a start; then turning such over to private enterprise as soon as they were able to stand on their own feet, and in this way an example has been set and an impetus given to many of the new industries of Manchuria by which many thousands are employed, thus adding materially to the prosperity of the population and the country generally.

Bean Oil

Even the crude native bean oil mill is rather new in Manchuria, the first having been established about 70 years ago. The first steam plant was introduced by an Englishman in Newchwang in 1896, but the actual establishment of bean oil milling on a large scale followed the advent of the Japanese, and subsequently numerous improvements have been made in manufacturing methods which have contributed largely to the growth of the industry. Dairen, where not a single bean mill of any kind existed in the Russian days, is now the center of this industry, though modern mills are also found elsewhere, and many hundreds of fairly primitive native mills scattered throughout Manchuria manage to operate very profitably.

Flour in North Manchuria

Flour milling is mainly an industry of North Manchuria, where the principal wheat crops are found, but such mills are also operating in South Manchuria. This industry has seen great fluctuations, owing mainly to commercial conditions in the outside world, but as the native population of Asia is turning to wheat as a foodstuff in increasing degree, the flour industry offers considerable promise.

S. M. R. Laboratory

The part which the South Manchuria

Railway, through the Central Laboratory and other agencies, has taken in the development of new industries, is interesting. The Central Laboratory not only renders assistance to private enterprise by furnishing analytical tests, estimates and the like, but it is constantly conducting investigations into various fields of research. An idea of the scope of its activities may be gained from the following eight divisions which it contains, namely, Analytical Chemistry, Applied Chemistry, Textile and Dyeing, Pottery, Fermentation, Sanitary Chemistry, Electric Chemistry, and Detail, in addition to which it establishes experimental workshops wherever it seems possible to develop any enterprise on a sound commercial basis.

Bean Industry

Among its activities have been the founding of a bean mill employing the chemical extraction system, and the numerous new uses of the bean, which have been enumerated already, have been due mainly to the researches of this laboratory. In 1910, an earthenware and porcelain factory was established, which was later on turned over to private enterprise. This brought an entirely new industry to Manchuria which had in the past imported all its pottery, although abundant and excellent raw material is found at various points within its boundaries. Manufacture of fire brick and bricks of various other kinds has also been developed, as well as that of glass of various kinds, which has been extremely successful, especially as raw material of a high order is found near Dairen.

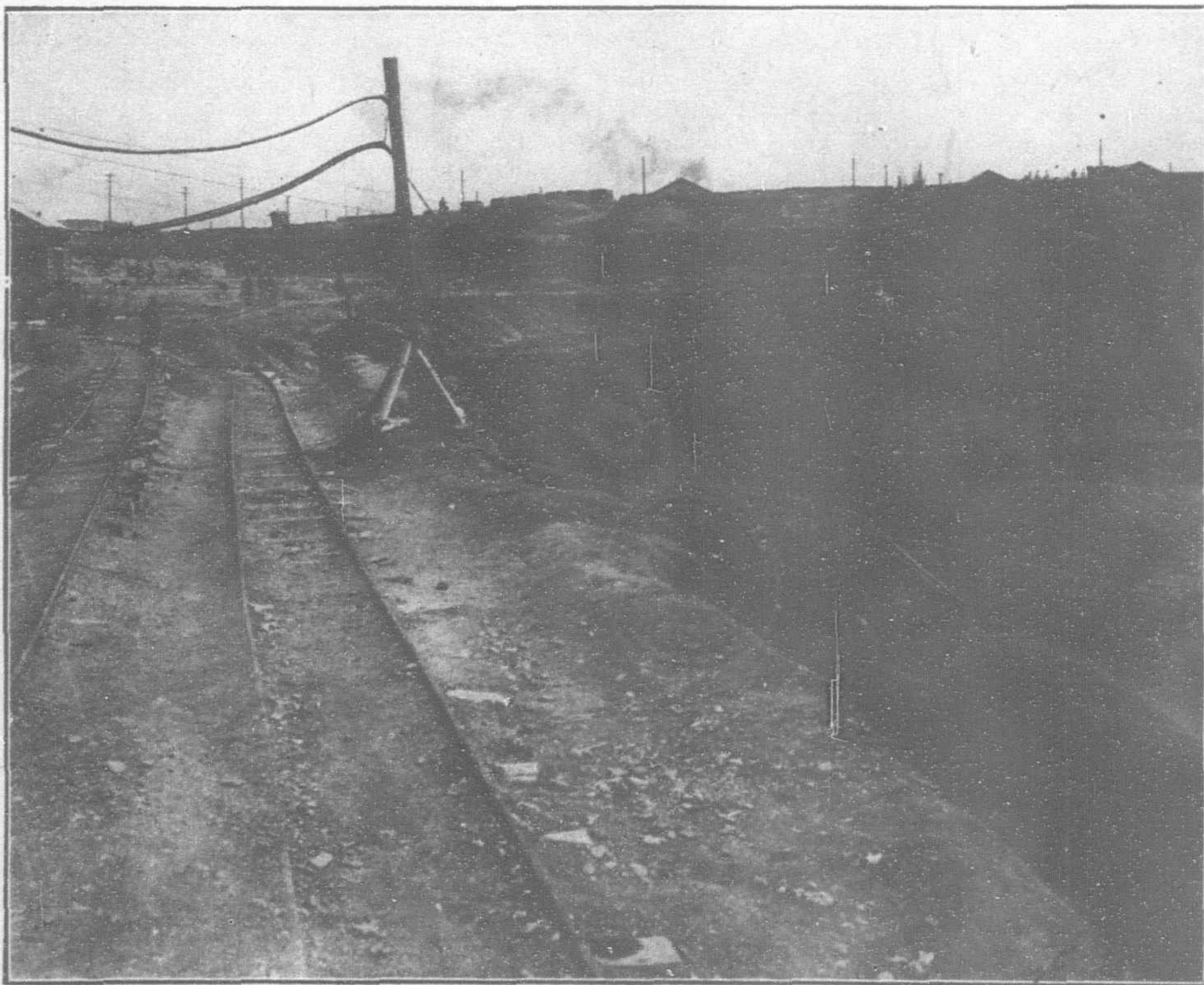
The numerous valuable industrial minerals which are found in quantity and variety in Manchuria, have been studied and various products manufactured therefrom, and similar work has been done whereby various new uses have been found for agricultural products, while several improvements in the method of handling the wild silk industry, which is of considerable importance, have been effected and imparted to the Chinese.

Enormous Benefit

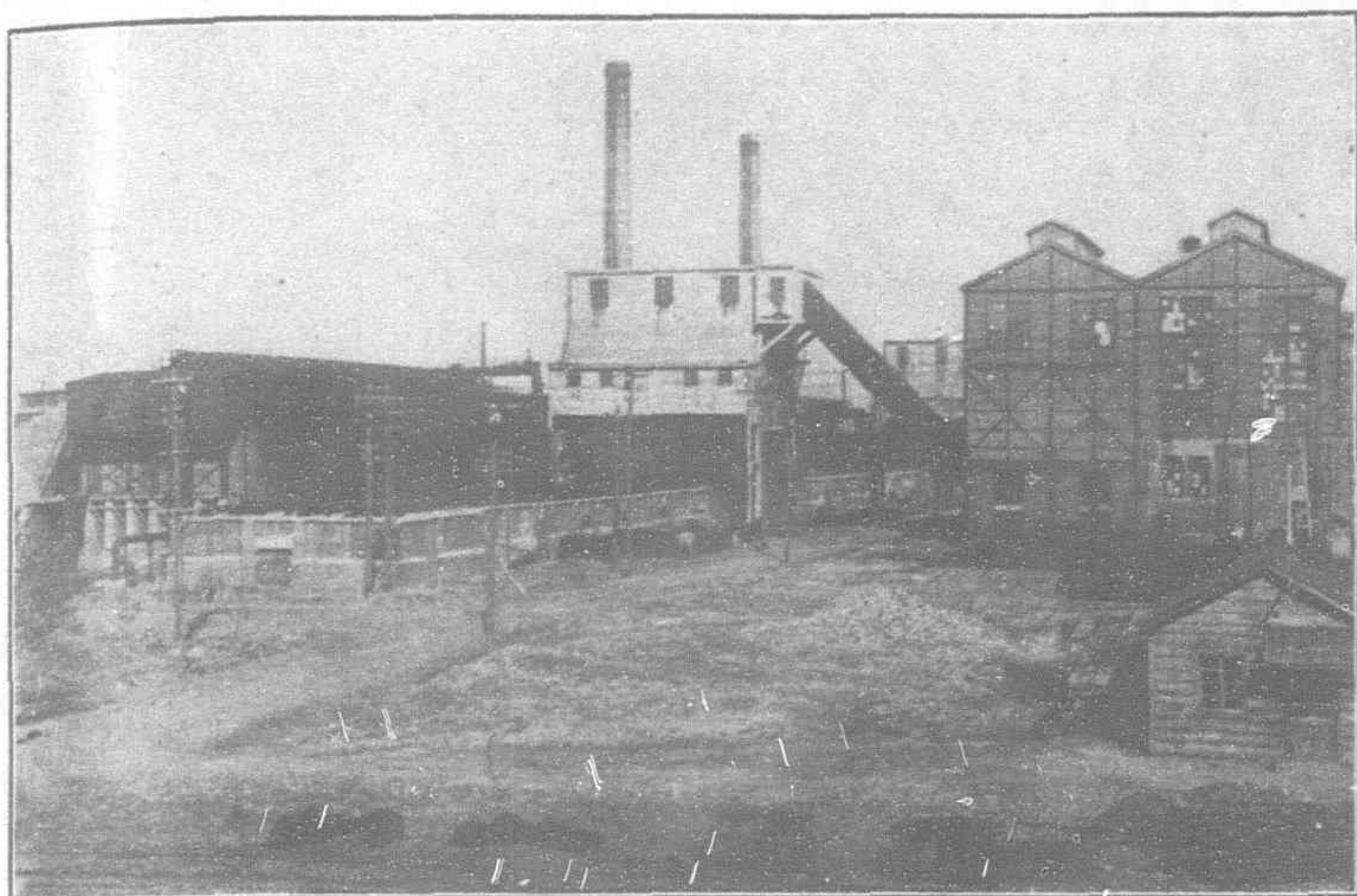
It follows that Manchuria has benefited enormously by these activities which have given value to many heretofore unused raw materials and have increased that of those which were formerly produced wastefully and crudely by means of primitive methods. Numerous manufacturing enterprises have been developed, such as sugar manufacture, spinning mills, etc., in which Chinese, Japanese, and foreigners engage, and employment has been furnished to many thousands, all of which has, of course, added enormously to the material wealth of the country.

Fushan Mines

The Fushan coal mines, which form one



A Corner View of the Open Cut at the Fushan Coal Mine



Coke-Ovens, Anshan

of the principal assets of the South Manchuria Railway Company, are located about twenty miles east of Mukden and are connected by rail with the main line. This coal field, which was acquired in 1907, covers some 16,500 acres, nearly ten miles from east to west and 2½ miles from north to south, with veins ranging in thickness from 78 to 420 feet, the average being 130 feet. The impurities do not exceed 20 feet in total thickness, and the total coal content is estimated at over a billion tons, of which up to the present 50,000,000 tons have been mined.

Open Cut Mining

These deposits were originally discovered some 700 years ago by Chosenese who worked them in a very primitive way, but later the Manchuria Government forbade further operations as they feared they might interfere with the spirits of departed imperial ancestors whose graves were in the vicinity. When the Russians entered Manchuria they took up mining here, but the scale was so limited that the daily output was only 350 tons. Under Japanese management, extensive improvements have been made and numerous modern methods introduced, about Yen 51,000,000 having been invested in this connection. A number of pits have been sunk and the spectacular "open cut" opened whence huge amounts of coal are stripped, which has increased production to the point where the output in 1926 was 5,737,306 tons, which will be increased by 1932 to 8,000,000 tons annually, which will constitute the practicable maximum. It is thus expected that mining can be continued for another 85 years. It is estimated that about 200,000,000 tons may be taken out by the stripping methods by which the recovery is about 100 per cent, while the remaining 750,000,000 tons must be taken out by the hydraulic stowage system, though which from 60 per cent. to 70 per cent. may be recovered.

High Quality Coal

Fushan coal is bituminous, of high quality, and suitable for locomotive and marine engines, being also excellent for gas making. A Mond gas producer plant has been established which generates electric power and also produces a large quantity of sulphate of ammonia as a by-product, and coke ovens are also maintained. The coal is being used on the South Manchurian Railway, and large quantities are exported, while the growing demand for coal as a fuel by the inhabitants of Manchuria accounts for a large consumption locally.

Oil Distillation

An important industry which is being developed in connection with the Fushan mines, is the distillation of oil from the shale deposits which are estimated to amount to about 5,500,000,000 tons, and as this shale must be taken out in connection with the coal mining operations, this raw material is virtually costless. After various experiments with systems used abroad, the Fushan experts invented a new process which recent experiments have shown to

be highly successful. Plans have been made for a plant capable of handling 700,000 tons of shale a year, from which it is expected will be produced 50,000 tons of heavy oil, and 1,000,000 gallons of volatile oil, as well as paraffin and ammonia.

The Yentia coal mine, about ten miles north-east of Yentia station, with which it is connected by rail, is about 3½ miles long by one mile in width, with an estimated deposit of 20,000,000 tons. This colliery began operations in 1910, and its output in 1926 was 138,248 tons.

These coal mines form one of the most important sources of revenue for the South Manchuria Railway, as may be seen from the fact that in 1926 the total revenue was Yen 68,447,274 against an expenditure of Yen 59,418,780.

With the development of the Fushan mines, a large and modern town was built, but as it was discovered that it has been located over a valuable coal seam, which is to be exploited by the open cut system, it became necessary to move it and the work of rebuilding the town on a new site is now in course of progress.

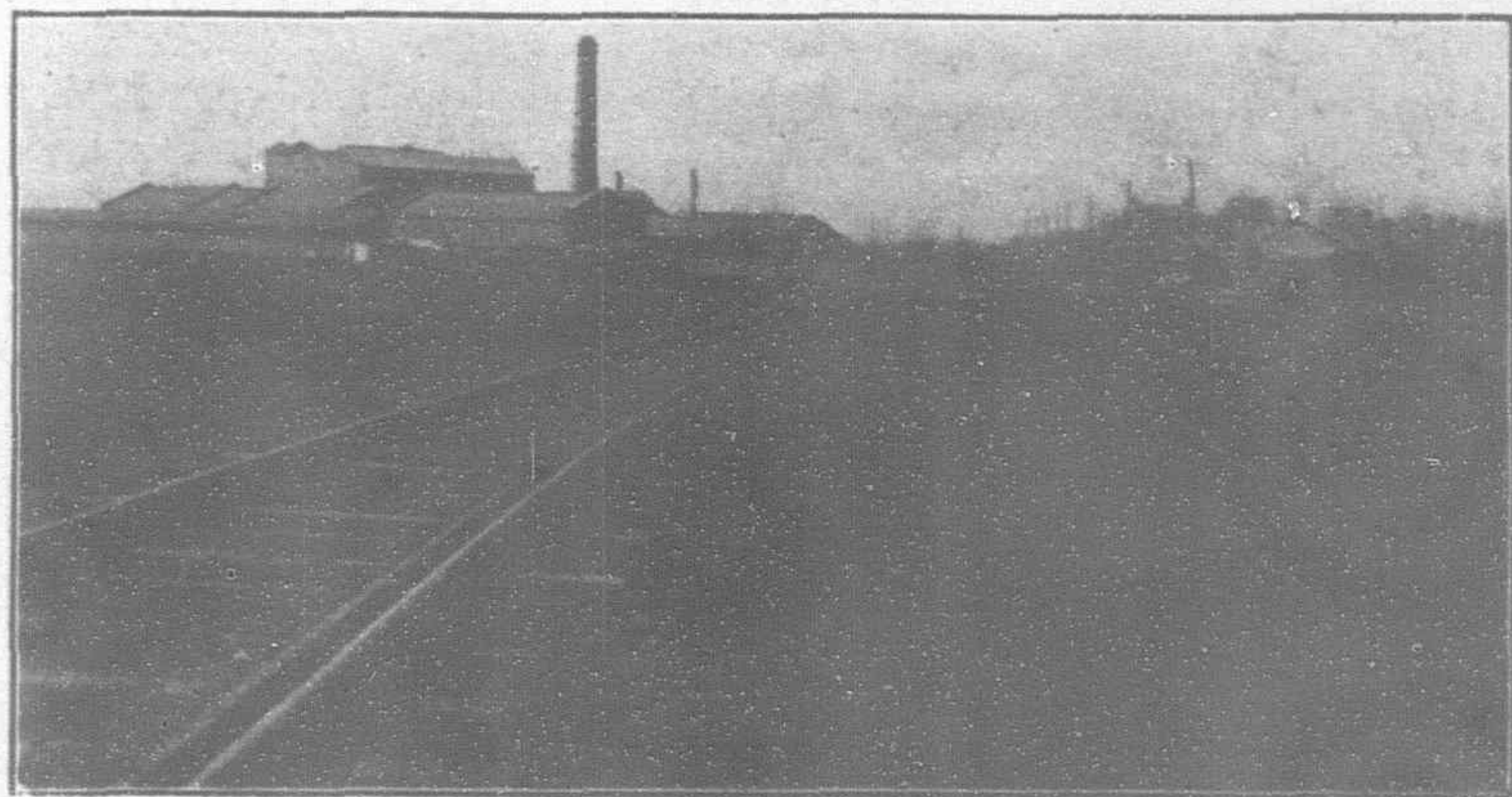
Anshan Iron Works

In 1909 officials of the South Manchuria Railway Geological Institute discovered the presence of iron deposits at and about Anshan, and about six years later development thereof was made possible through a treaty with China. A site of about 4,540 acres was purchased for the plant and the modern town which has been built there. While the ore reserve is large, being estimated at about 300,000,000 tons, most of the ore is of rather poor grade, averaging from 35 to 40 per cent. of metal to the ton. The richer grades, averaging some 52 per cent, are scattered in small deposits, most of which have already been worked.

The first pig iron was produced in the spring of 1919, but as the price of iron which had been abnormally high during the war years, soon fell considerably, the high hopes originally entertained were to some extent disappointed. Iron is, however, a most important commodity to Japanese industry, only very small deposits thereof being found in Japan, and the South Manchuria Railway therefore continued to develop the plant although this involved a heavy financial loss at the time. Over Yen 45,000,000 has been spent on the plant, which contains two blast furnaces, each capable of producing 250 M.T. a day; four coke ovens, each with a capacity of 130 M.T. a day; gas works, electric plant, etc.

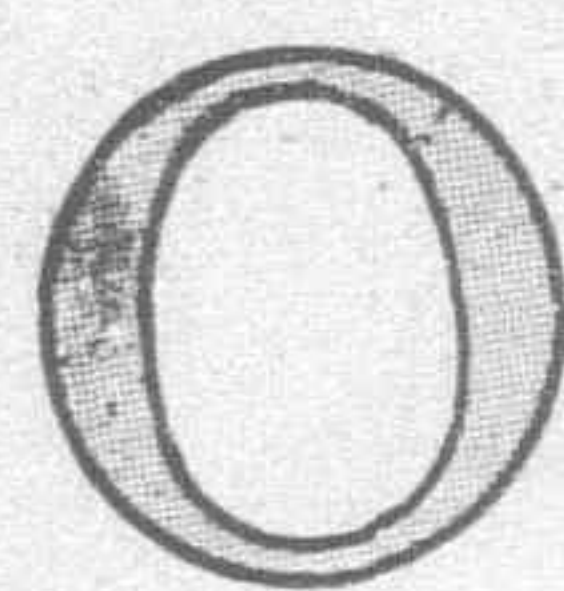
Economy Problem

The principal problem before the management consisted in devising methods for handling economically the low grade ores which form the greater part of the deposits. After considerable study, one of the Japanese experts attached to the plant invented the so-called hematite reducing system and magnetic concentration method. A large concentration plant was built which provides a preliminary treatment of the ores making it possible to recover their metal content economically. The annual pig iron output of the plant was 88,163 tons in the fiscal year ending March, 1926, but the production is to be increased to 200,000 tons annually.—"Osaka Mainichi."



General View of the South Manchuria Sugar Refining Co., Ltd., Mukden

The Long Distance Telephone Between Shanghai and Nanking



ON March 12, the long distance telephone service was initiated formally to Nanking, the route to that place including connections with Woosung, Shanghai Settlement, Nanzhang, Shanghai, Soochow, Wusih, Chinkiang and Nanking, and a flourishing business is reported during the week just ended.

Mr. I. V. Wah is engineer-in-chief and Mr. F. I. Chu, assistant engineer-in-chief, and close co-operation is being maintained between the Shanghai Mutual Telephone Co., and the Chinese Administration. As can be seen from the table available a fixed schedule of rates for the calls is the rule, a \$10 deposit for long distance calls being required against which calls actually put in are debited until the deposit is nearly exhausted, whereupon a renewal of the deposit is expected by subscribers, after due notification. Likewise, a \$5 toll deposit for intercommunication privilege with Chapei, Nantao and surrounding districts of the Settlement is required. Charges for long distance and toll calls are based on the three-minute schedule.

On the date of opening there were 19 calls to Soochow, which gives promise of being a popular long distance calling point, eight to Wusih, nine to Woosung and two to Chinkiang, and four days later four calls were put in *via* or from the Settlement to Nanking, 25 to Soochow and 10 to Wusih. A steady increase is seen daily, and a large number of foreign firms have listed themselves as subscribers, as an efficient long distance telephone service to the places in question has a very considerable commercial value.

Reports locally are that it is the purpose of the Chinese Telephone Administration to extend the service throughout Chekiang and eventually to Peking. The latter undertaking, however, allows of a certain amount of scepticism. Authorities point out that under the existing Chinese system of drastic "squeeze" all along the line, in the various territories traversed the undertaking could not possibly be on a paying basis to the construction company. When long distance telephone construction begins to be viewed in the light of "public utilities," foreign experts point out further, there will be some hope of the Shanghai-Peking telephone service.

Quite apart from this, however, the good results of the present expansion are viewed with much satisfaction by those who have been watching developments. The Chinese in charge of the work are described as competent executives and engineers and the cessation of troubles in this vicinity has allowed the work to be carried on. Four changes in the executive branch of the construction work have taken place during the past year, political considerations mainly having entered into the matter, but in spite of this handicap the work has progressed.

A definite schedule of hours during the day when the long distance service is available to subscribers at the regular rate is further supplemented by the fact that "urgent" calls can be made at any time of day by payment of a trebled charge.

The following 14 regulations of the Chinese Telephone Administration are interesting:—

1.—Both foreigners and Chinese have the privilege to apply for communication in accordance with these regulations.

2.—The long distance telephone is divided into two kinds, namely, ordinary and special. The fee for ordinary is as per table and that for special, having the privilege of getting the connection first, is to be paid triple more than the ordinary.

3.—When a reply is obtained from the called number, whether it is the man wanted or his family or his servants, the calling subscriber is to be charged as one unit for five minutes or less. Ten minutes or less is to be calculated as two units and 15 minutes or less as three units. A subscriber is not allowed to continue his conversation over three units at the same time or to call two subscribers to talk in one unit otherwise it would be calculated as two units.

4.—People who do not possess a telephone, or having a telephone installed but who have not paid the deposit, applying to use the telephone in the Administration are requested to pay the money for one unit first and then give the number wanted to the Telephone Administration who would connect for them. The money for over one unit is to be paid after finishing the conversation.

5.—Any subscriber having a telephone installed if wishing to communicate long distance calls at his telephone must be registered

at this Administration by paying \$10 as a deposit. The money would be returned if the telephone is taken down or the service not required.

6.—The registered subscriber wishing for a long distance telephone must first ask the operator for long distance telephone who would connect to the record desk. This desk would inquire the called subscriber's name and the numbers calling and called (if the called has not a telephone, his name and address should be given for entering in the list). After that the receiver is to be placed back and to wait for the operator's call.

7.—The called subscriber having no telephone installed is to be informed by a special messenger from the Administration but is to be charged 10 cents (big money) for this errand, if it is within the limit of the Administration or not over five miles distant from the Administration. If over five miles another 10 cents (big money) is to be paid. It is not to be sent if over ten miles. If the called subscriber cannot be found or does not want to reply if informed the fare paid is not to be returned.

8.—Units and fares are to be paid as per the operators' record list.

9.—The registered subscriber has to sign on the bill for the calls sent by the Administration from time to time and has to pay the money to the shroff or to pay at the Administration. If it is not settled it will be deducted from his deposit.

10.—The fee for long distance telephone and fares are to be paid by the calling subscriber. If a subscriber's telephone is used by other persons, he is to be responsible for all the fees.

11.—The man who comes to the Administration for long distance telephone has to wait at the Administration for receiving otherwise he is not to be informed if the call is obtained. Fee paid is not to be returned.

12.—If the long distance lines are all engaged excepting the special caller, the ordinary callers have to be connected one after another in order, but the ordinary is not to be cut off by the special before his conversation is finished.

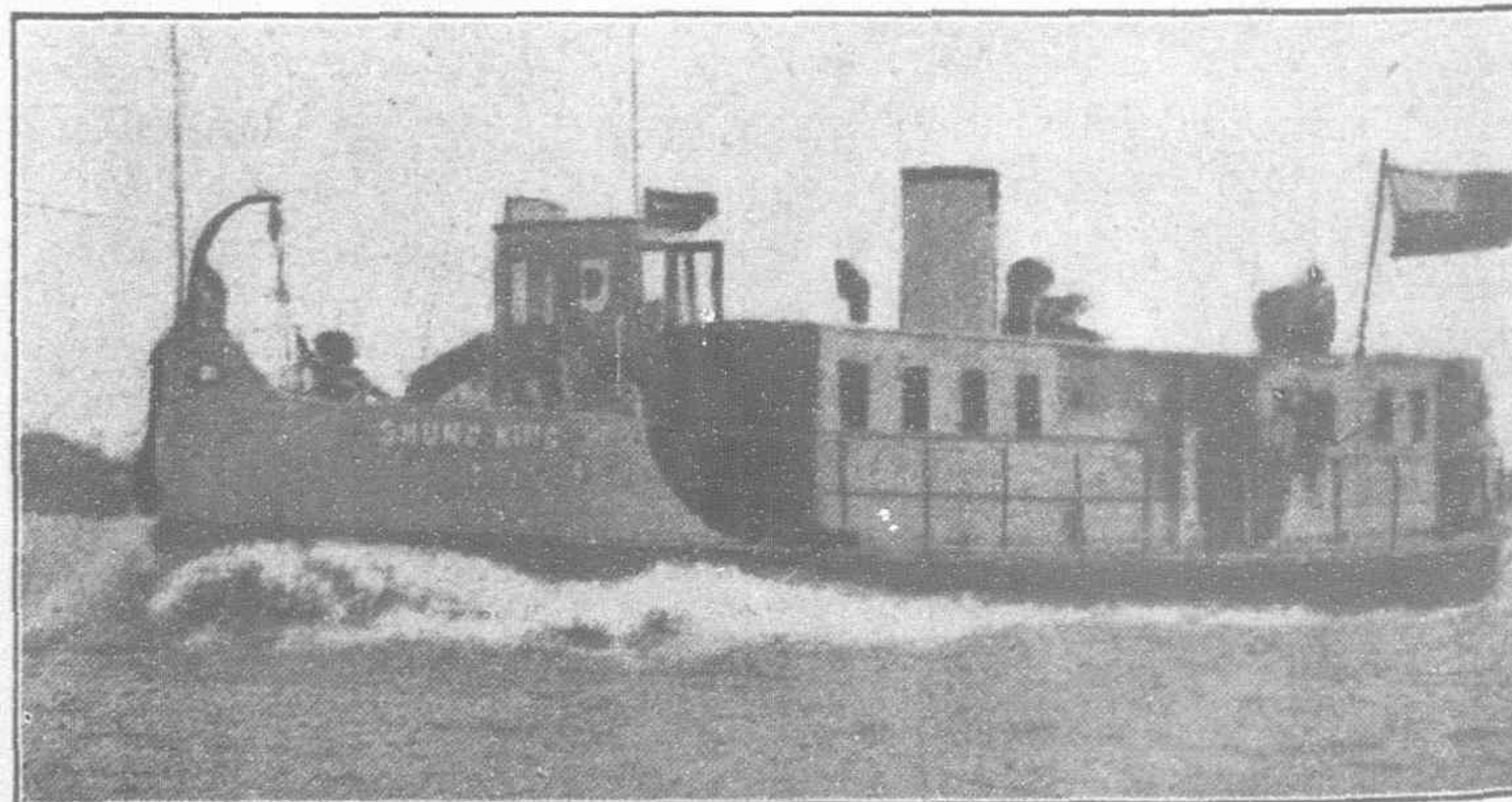
13.—Directories for all Administration can be bought at the respective offices.

14.—The regulations if found incomplete may be altered at any time when desired.

Rates for long distance calls of perhaps most interest are:—Nanking to Woosung, \$1.60; Chinkiang to Woosung, \$1.30; Wusih to Woosung .80; Soochow to Woosung .50; Shanghai to Woosung .10; Shanghai to Soochow, .40; Shanghai to Chinkiang \$1.20; Shanghai to Nanking \$1.50.

A Chinese Passenger Boat

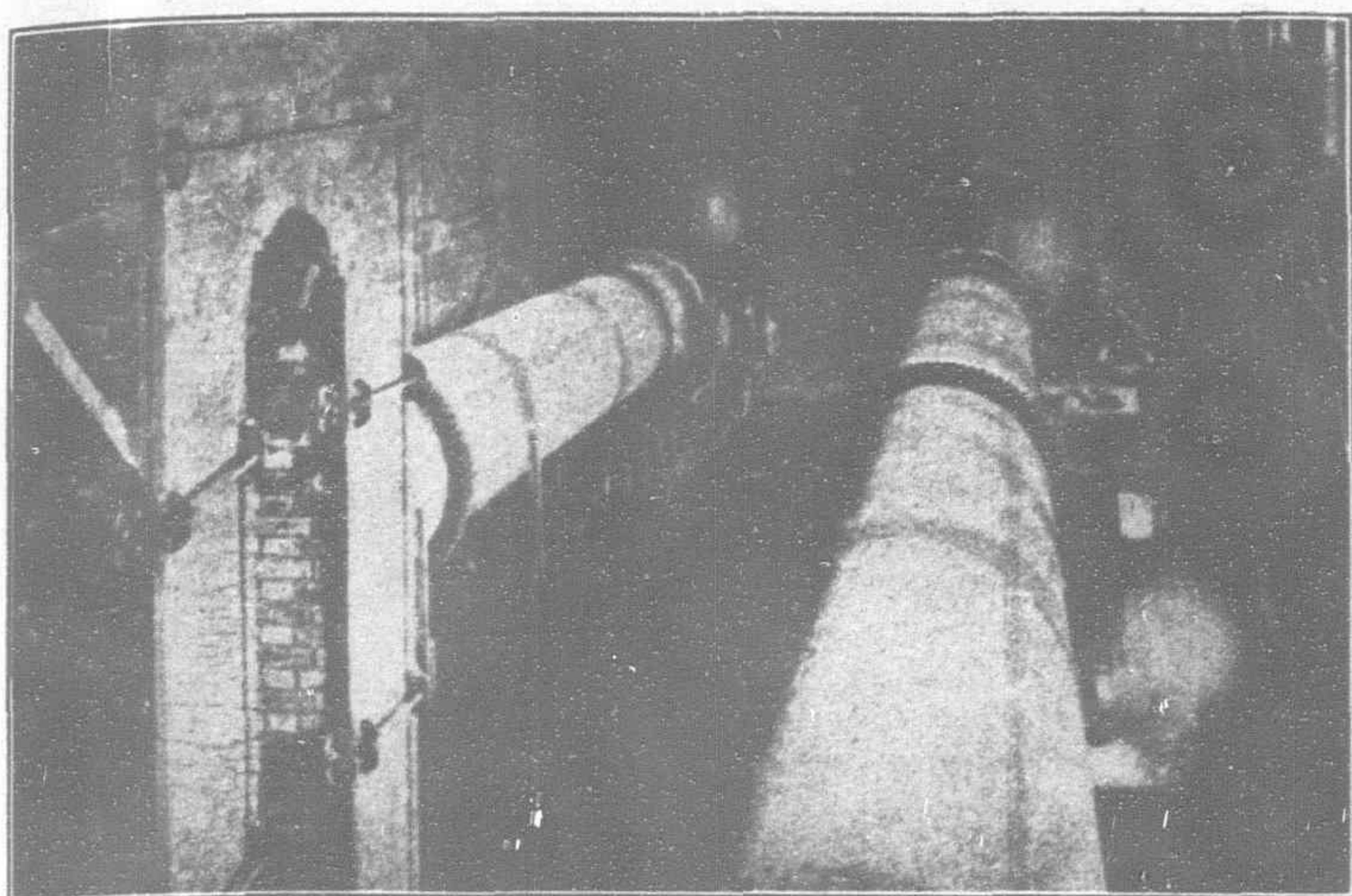
There has recently been built at the Kiangnan Dock for Chinese owners a passenger boat 80 ft. in length, having an extreme beam of 17 ft. This boat, which is for service above Chungking, is fitted with two 96 h.p. four-cylinder Gardner semi-Diesel engines, giving



A British-engined Chinese Passenger Boat

a speed on trial of 11.12 knots. The craft is typical of motor passenger-carrying boats in operation on Chinese waters.

The accompanying illustration shows the vessel under way at full speed.



A Duplex System Rotary Kiln in a Cement Factory

Cement Industry of Japan *

Presence of Abundant Raw Material Promotes Cement Industry in Japan

THE cement industry in Japan began in 1870 when the Government began building a cement factory in Fukagawa, Tokyo. In 1875 the factory with necessary equipment was ready for operation. But the lack of technical knowledge of manufacture proved quite discouraging. In 1883 the factory was sold to Mr. Asano, formerly the president of the Toyo Kisen Kaisha, who organized the Asano Partnership Company. This was the beginning of the Asano Cement Manufacturing Company, Limited, of to-day.

The Onoda Cement Company was organized at Onoda, Nagato Province, in August, of the same year, with an annual productive capacity of 15,000 barrels. The company enlarged the scale of the factory in 1886 by purchasing the latest machinery from Germany and improved the general method of production by inviting a German expert.

The foundation of the cement industry may be said to have reached a firm basis by this time. When it was found that lime as material for cement could be had in large quantity anywhere in this country, the fact encouraged the rise of the cement industry. Several new companies have been established since 1888, and especially after the Sino-Japanese War, the cement factories appeared almost everywhere, numbering in 1902 as many as 30 with an annual production of 600,000 barrels (one barrel weighing 380 lbs.)

Cement Exported to China

This not only checked the import of foreign cement but even exported some to China. The great war further stimulated the industry and many cement factories extended their plants while new companies were organized.

The demand for cement, however, decreased as soon as the great war ended, the price fell and the market became depressed in general. The great earthquake in Tokyo and Yokohama in 1923, and subsequent reconstruction work in the devastated districts revived the demand for cement which is now experiencing a kind of boom. Many factories are planning an extension of plant, and an increase in production.

The following table shows the total output of recent years and the entire amount of cement exported: (Unit one barrel.)

	Total output	Part of total exported
1922	10,795,700	609,838
1923	13,017,706	311,140
1924	12,739,959	449,544
1925	14,558,904	1,295,177
1926	18,609,790	1,930,243

This increase of production resulted in overproduction, and many companies since last year have been discussing an agreement on reduction of output and maintenance of a fixed price. But as the extension of factories was completed at the same time the output showed no decrease.

A comparison of the output by several companies and amount consumed at home and their relative percentage during August, 1927, is as follows: (Unit one barrel.)

	Total output	Home consumption	Percentage
Iwaki	118,049	107,407	91%
Nihon	20,049	55,292	275.8%
Hokoku	116,780	116,699	99.9%
Tosa	38,119	28,171	73.9%
Toa	29,557	24,467	82.8%
Chichibu	64,321	51,367	97.9%
Oita	145,450	77,426	53.2%
Onoda	254,829	239,125	93.8%
Yogyo	57,577	53,766	93.4%
Ube	73,457	66,246	90.2%
Asano	723,626	615,918	85.1%
Others	1,693,984	1,482,616	87.5%

The reason that the Nihon Cement sold more than it produced is due to its "dumping" to relieve its own financial difficulty.

For High Grade Cement

Although these cement factories have been increasing their output, they were not satisfied with that; they wanted as well to produce high grade cement. The Asano Cement interest in 1926 organized with a capital of Y.50,000,000 the Asano Super Grade Cement Company (which was consolidated with the Asano Cement in February, 1927). Several other companies also are planning a similar enterprise as a side business, and when these factories complete their equipment, the output may be expected to be further increased.

The business condition of the principal cement factories during that first half of 1927, shown in figures, is as follows: (Unit Y.1,000).

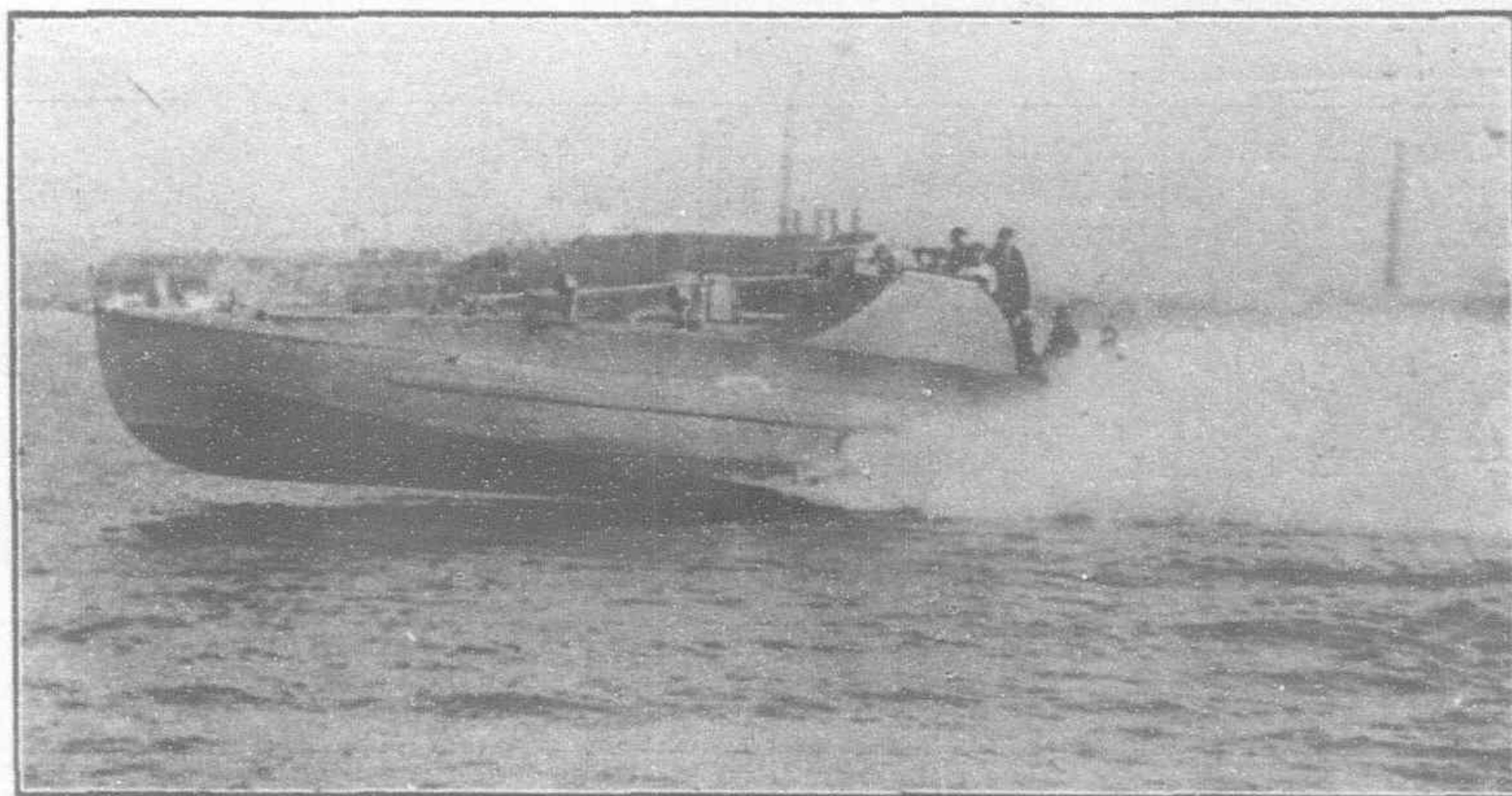
	Paid-up capital	Profit	Dividend of preceding term
	Y.	Y.	%
Asano	45,012	3,842	15
Onoda	11,201	1,133	10
Iwaki	6,605	503	10
Hokoku	7,500	380	7
Oita	6,184	550	8
Nihon	5,000	381	10
Ube	3,500	303	10
Yogyo	2,500	301	10
Chichibu	3,000	385	13
Tosa	5,500	273	8

*From Japan To-day and To-morrow, published by Osaka Mainichi

Thornycroft 39 Knot Torpedo Boat for Dutch Navy

The Royal Dutch Navy Torpedo Boat, "S.M.2," successfully completed her full power trials at the Mouth of the Thames to-day, obtaining a speed of just over 39 knots, which is 2 knots in excess of the guaranteed speed.

"S.M.2" is the second of the Coastal Motor (Torpedo) Boats ordered by the Royal Dutch Navy from John I. Thornycroft & Co., Limited, for service in the Dutch East Indies. Her armament



The New Dutch Torpedo Boat S.M. 2.

includes two 18" torpedoes, four machine guns, depth charges for anti-submarine work and facilities for smoke screen work.

Her length is 55-ft. and she is fitted with two Thornycroft Y/12 type engines each developing about 400 B.H.P.

The first vessel, "S.M.1," has reached Soerabaya in the Dutch East Indies and is now being commissioned for service by the Netherlands Colonial Navy there.

The Iron and Steel Industry in China*

By K. L. Hsueh, E.M., S.M.

IRON and steel are known to have been manufactured in China by primitive methods as early as 700 B.C. Modern blast furnaces and steel plants, however, were first introduced only about 40 years ago when Viceroy Chang Chih-tung built the iron works in Hanyang, Hupeh province, which later, in 1908, were formally consolidated into the Hanyehping Iron and Coal Company. Since then, several iron and steel works have been established in the provinces of Hupeh, Manchuria, Kiangsu, Shansi, Chihli, etc., with either entirely Chinese or partly foreign capital. At present there are seventeen regular modern blast furnaces with a daily capacity varying from 12 to 450 tons of pig iron each, and nine open hearth furnaces with an average daily capacity of 50 tons of steel each. In addition, small iron cupolas and steel converters are found in the various foundries, and recently several electric steel furnaces have been installed in the arsenals or dockyards. Their total annual capacity is about 1,000,000 tons of iron and 100,000 tons of steel. Their actual production is only about 30 per cent. of their capacity. These figures are trifling, indeed, when compared with the reserves of ore in the country.

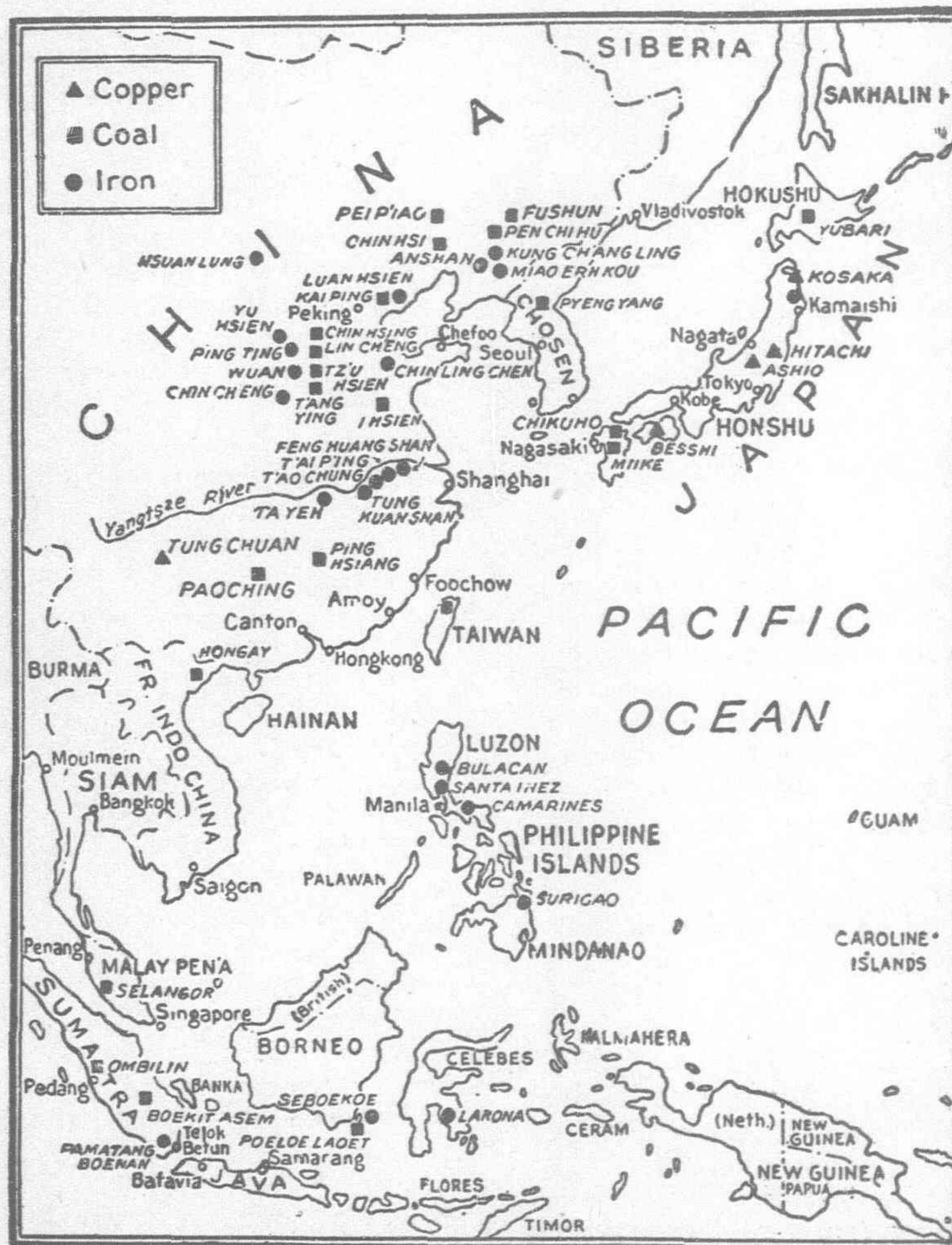
Principal Iron Mines

The annual production of iron ores in China is about

1,500,000 tons, of which about two-thirds come from modern iron mines and one-third from native pits. The latter are common in many provinces, especially in Shansi where the disseminated type of ore seems favorable to the native method of mining. The principal modern-type mines are only nine in number, some not very active. Table I shows the location, ownership, quality of ore, etc., of these mines, and Table II gives their annual production from 1918 to 1924.

Principal Iron and Steel Works

The centre of the Chinese iron and steel industry is the Wuhan area in the Lower Yangtze Valley. At Hanyang is the first Chinese modern iron works; in Tayeh are the two largest Chinese blast furnaces with a daily capacity of 450 tons each; and in Hankow is the only blast furnace of considerable size designed, erected, and owned by Chinese merchants; namely, the Yangtze Engineering Works. Their source of ore supply is Tayeh. In Fengtien province on the South Manchuria Railway are located two iron works, the Penchihiu Iron Works, which is Sino-Japanese, and the Anshan Iron Works, which is entirely Japanese. These two represent a little over one-third of China's pig iron capacity. At Shih-chenshan, about 16 km. west of



Map Showing Location of Principal Coal, Iron and Copper Deposits in the Far East—H. Foster Bain

TABLE I.—Principal Iron Mines in China.

Name	Ownership	Location	Kind of Ore	Quality of Ore			Remarks
				Fe%	P%	S%	
Hsiangpishan	Hupeh Provincial Mining Bureau	Tayeh, Hupeh	Hematite	65.4	0.05	0.08	Supply of the Yangtze Engineering Works.
Hsuanlung	Lungyen Mining Administration	Hsuanhua, Lungkwan, Chihli	Oolitic & stromatolitic hematite	56.1	0.11	0.04	Suspended.
Tayeh	Hanyehping Iron & Coal Co.	Tayeh, Hupeh	Hematite	60-62	0.05-0.25	0.05-0.12	Contracted Japanese loans, Most of the ores shipped to Japan.
Tangtu	Paoshing, Ihua, Liehming, Fumin & Chenyeh Cos.	Taiping, Anhwei	Partly magnetite; partly hematite	58	0.44	0.06	"
Taochung	Yufan Co.	Fanchang, Anhwei	Hematite	62	0.17	0.029	"
Miaoerkou	Chino-Japanese Coal & Iron Joint Stock Co.	Penchihiu, Fengtien	Magnetite { rich poor	66.86 36.41	0.05 0.051	6.30 0.017	Supply of Penchihiu Iron Works
Kungchangling	Kungchangling Iron Mining Co.	Liaoyang, Fengtien	Magnetite { rich poor	64.5 29.33	0.027 0.087	0.308 0.213	Sino-Japanese concern
Anshan	Chenshing Co.	Liaoyang, Fengtien	Magnetite with hematite	57.62	0.024	0.069	Supply of Anshan Iron Works
Chinlingchen	Lutah Co.	Yitu, Shantung	Hematite, magnetite & limonite	66.51	Surface 0.06	0.066	Explored by Germans. Under Japanese control 1914-1919.
				55.27	Underground 0.02	0.66	Sino-Japanese concern since 1919. Ore shipped to Japan.

*Chinese Economic Journal.

Peking on the Peking-Mentowkou Railway, is situated the Lungyen Iron Works, claimed to be the best arranged in Asia, outside India. It has one blast furnace of 250 tons daily capacity (the original plan was to install two such units) completed in 1922, but, owing to the slump in the iron trade, it has never been blown in. Ore is available from the Hsuan-lung region, distant 160 km.

TABLE II.—*Production of Iron Ore from the Principal Iron Mines in China in Metric Tons.*

	1918	1919	1920	1921	1922	1923	1924
Hsiangpishan	—	—	45,677	161,575	45,439	149,406	172,110
Hsuanlung*	—	—	—	—	—	—	—
Tayeh ...	684,756	751,442	824,491	384,285	345,631	486,631	468,922
Tangtu ...	97,000	41,290	44,389	8,000	34,583	74,190	55,840
Taochung ...	—	114,461	61,810	160,760	267,400	301,650	348,755
Miaoerkou	104,578	109,671	90,434	—	—	25,513	65,000
Kungchangling†	—	—	—	—	—	—	—
Anshan ...	88,364	165,519	151,030	160,164	139,528	188,218	155,105
Chinlingchen	—	178,847	128,164	88,204	26,335	7,618	—

Total ... 974,698 1,361,230 1,345,995 962,988 858,916 1,233,226 1,265,327

*Work started in 1917 and suspended since 1918, total ore mined about 100,000 tons.

†Prospective work has been extensive but no mining has been done.

The Hanyang Steel plant is the oldest as well as the largest. It has seven basic open hearth furnaces, each of 30 tons capacity, and one mixer of 150 tons capacity. Because of ineffective construction it was shut down in 1922. The Hohsing Iron Refining Works has in Putung, opposite the Kiangnan Dockyard of Shanghai, two open hearth furnaces with a combined monthly capacity of about 1,300 tons. It has also a rolling mill plant capable of turning out bars, billets, Ts, bamboo steel, bars for reinforced concrete, and light rails up to twenty-six pounds in weight. Besides, there are several electric furnaces recently installed in a few arsenals or dockyards. Table III shows the location, ownership, units, capacities, etc., of the various works. Table IV shows production from 1918 to 1925.

Iron Ore Reserve

The iron ore reserve of China has been estimated by the Chinese Geological Survey to amount to about 950 million tons of which

about 400 million tons are accurate and the other 550 million tons are potential. Geological they may be classified as in Table V. Geographically they are distributed as shown in Table VI.

TABLE III.—*Principal Iron and Steel Works in China.*

Name	Ownership	Location	Units & Capacities			Max. annual production	Remarks
			No. blast furnaces	Daily capacity in tons Per unit	Total		
A. Iron Works							
Lungyen	Lungyen Mining Administration	Shihchen-shan, west of Peking	1	250	250	90,000	Never blown in
Hanyang	Hanyeh-ping Iron & Coal Co.	Hanyang, Hupeh	4	2-75 2-250	650	234,000	Suspended
Tayeh	„	Tayeh, Hupeh	2	450	900	324,000	Suspended
Yangtze Engineering Works	Liuhokou Coal Mining Co.	Hankow	1	100	100	36,000	„
Hohsing	Hohsing Iron Refining Works	Putung, Shanghai	2	1-12 1-33	45	16,200	
Paochin	Paochin Co.	Yangchien, Shansi	1	20	20	7,200	
Penchihiu	Chino-Japanese Coal & Iron Joint Stock Co.	Penchihiu, Fengtien	4	2-20 2-140	320	115,200	
Anshan	South Manchuria Railway	Liaoyang, Fengtien	2	250	500	180,000	
Total			17		2,785	1,002,600	
B. Steel Works							
Hanyang	Hanyehping	Hanyang	7 basic open hearth	30	210	75,600	Suspended
Hohsing	Hohsing Iron Refining Co.	Putung, Shanghai	2 open hearth	1-30 1-70	100	36,000	
Total			9		310	111,600	



General View of the Pinghsiang Collieries of the Hanyehping Iron and Coal Company, Located at Pinghsiang, Kiangsi Province

TABLE IV.—*Production of Pig Iron and Steel from the Principal Works in China, in tons.*

	1918	1919	1920	1921
<i>A. Pig Iron</i>				
Hanyehping	139,152	166,097	126,305	124,360
Penchihu	44,992	78,871	48,824	30,869
Anshan	—	31,620	74,895	62,310
Yangtze Engineering	—	—	7,624	15,248
Total	184,144	276,588	257,648	232,778
<i>B. Steel.</i>				
Hanyehping*	26,996	4,851	38,260	46,800
*Suspended since 1922.				
	1922	1923	1924	1925
<i>A. Pig Iron.</i>				
Hanyehping	148,424	73,018	26,977	53,482
Penchihu	—	14,338	51,950	50,000
Anshan	60,000	76,086	81,594	96,135
Yangtze Engineering	15,248	23,279	16,347	14,766
Total	223,694	186,721	176,868	214,383

TABLE V.—*Geological Classification of China's Iron Ore Reserve.*

Type	Iron Ore Reserve in Tons		Total	General Description
	Accurate	Potential		
I. Archaen	295,000,000	477,000,000	772,000,000	Quartz-banded crystalline magnetite and hematite, as extensive layers, probably sedimentary in origin. Generally poor in iron content. Occurs in northern Chihli and southern Manchuria.
II. Sinian or Hsuanlung	28,000,000	64,000,000	92,000,000	Bedded hematite ore with oölitic or stromatolitic structure, sedimentary in origin. Very high in iron content. Occur in north-western Chihli notably Hsuan Hua and Lung

III. Contact Metamorphic (post carboniferous)

73,000,000 9,600,000 82,600,000

IV. Other types

— 5,100,000* 5,100,000

Total 396,000,000 555,700,000 951,700,000

*This figure does not include the nodular ores of Shansi which, though the aggregate tonnage is very large, is unfavorable for modern methods of working.

Kuan, hence the name.

In contact between laccolithic masses of granodiorite and pre-existing sedimentary rocks of both calcareous and siliceous composition, hematite dominating with some magnetite. High grade ore. Widely distributed along the belt of Lower Yangtze Valley in the provinces of Hupeh, Kiangsi, Anhwei, and Kiangsu.

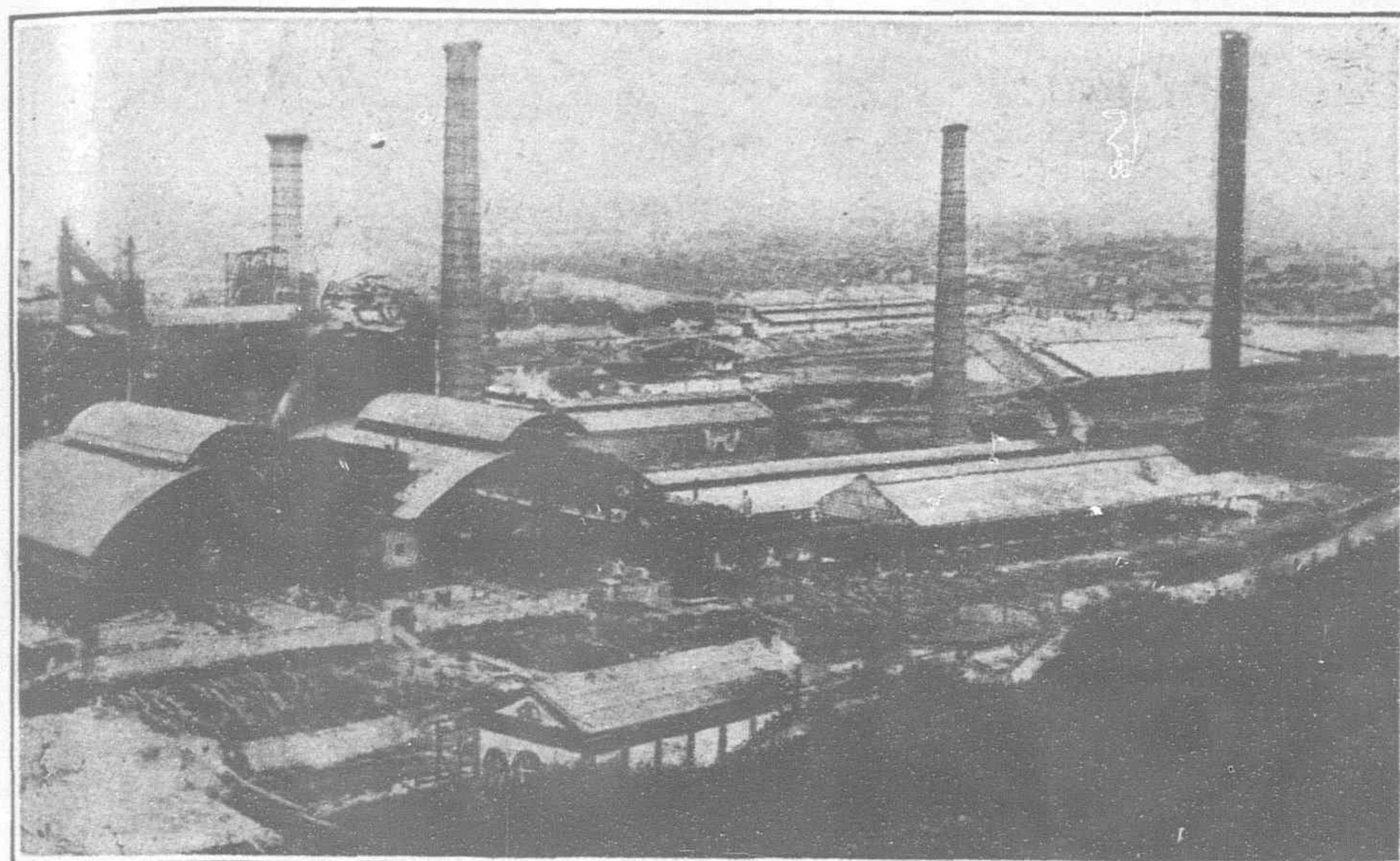
Including (1) Ping-Hsing type-metamorphic hematite beds in metamorphosed carboniferous sandstone strata, oölitic hematite often with remnants of chloritic material, usually high grade in iron but high in phosphorous—the only basic ore known in China.

(2) Iron sands of both hematite and magnetite occurring in the provinces of Fukien and Chekiang.

(3) Gossan deposit such as occurred in Yunnan.



Panoramic View of the Penchiu Blast



View of a Section of the Steel Works of Hanyehping at Hanyang

TABLE VI.—Geographical Distribution of China's Iron Ore Reserve by Provinces.

Province	Iron Ore Reserve Tonnage
Fengtien	387,580,000
Chihli	91,479,000
Hupei	52,600,000
Anhui	50,000,000
Kiangsu	35,000,000
Shantung	29,920,000
Kiangsi	18,060,000
Fukien	7,500,000
Honan	3,400,000
Chekiang	2,300,000
Other provinces	273,861,000
Total	951,700,000

According to Olin R. Kuhn's estimate in 1926 of China's iron ore reserve, it approximates 1,300 million tons, which is one-seventh of that of Brazil, one-sixth of that of the United States of America, one-fifth of that of France and equal to that of Great Britain. Obviously this figure will be greatly exceeded when the vast unexplored regions in Mongolia, Sinkiang, Tibet and many other provinces have been prospected. Already a large deposit of limonite is reported in the Altai Mountains. Taking the figures as they stand, Table VII shows that the iron ore reserves of China exceed those of the other countries of the West Pacific.

TABLE VII.—Known Actual and Potential Iron Ore Reserves on the West Coast of the Pacific Ocean.

Country	Iron Ore Reserve in Tons
China	950,000,000
Russian Far East	5,000,000
Japan and Korea	80,000,000
French Indo-China	Moderate
Siam	Moderate
Philippine Islands	200,000,000
Malay Peninsula and British Borneo	25,000,000
Netherlands East Indies	800,000,000
Australia and New Zealand	345,000,000
Total	2,405,000,000

Ratio of Iron Ore Reserve to Coal Reserve

"Iron goes to coal" is an old axiom. Countries like Sweden, Brazil, Cuba, and Newfoundland, although rich in iron ores, cannot

develop their iron and steel industry because coal is lacking. France having acquired Lorraine now leads Europe in output of iron but has to send her ores to Germany to be smelted. With an estimated (N. F. Drake) coal reserve of 996,000 million tons, according to the International Geological Society, China possesses one of the most essential requisites for the development of her iron and steel industry.

Taking the iron ore reserve of China to be 1,300 million tons, and the coal reserve to be 996,000 million tons, and assuming 50% of the coal reserve to be capable of coking, the ratio of coking coal reserve to iron ore reserve is almost 400 to 1.

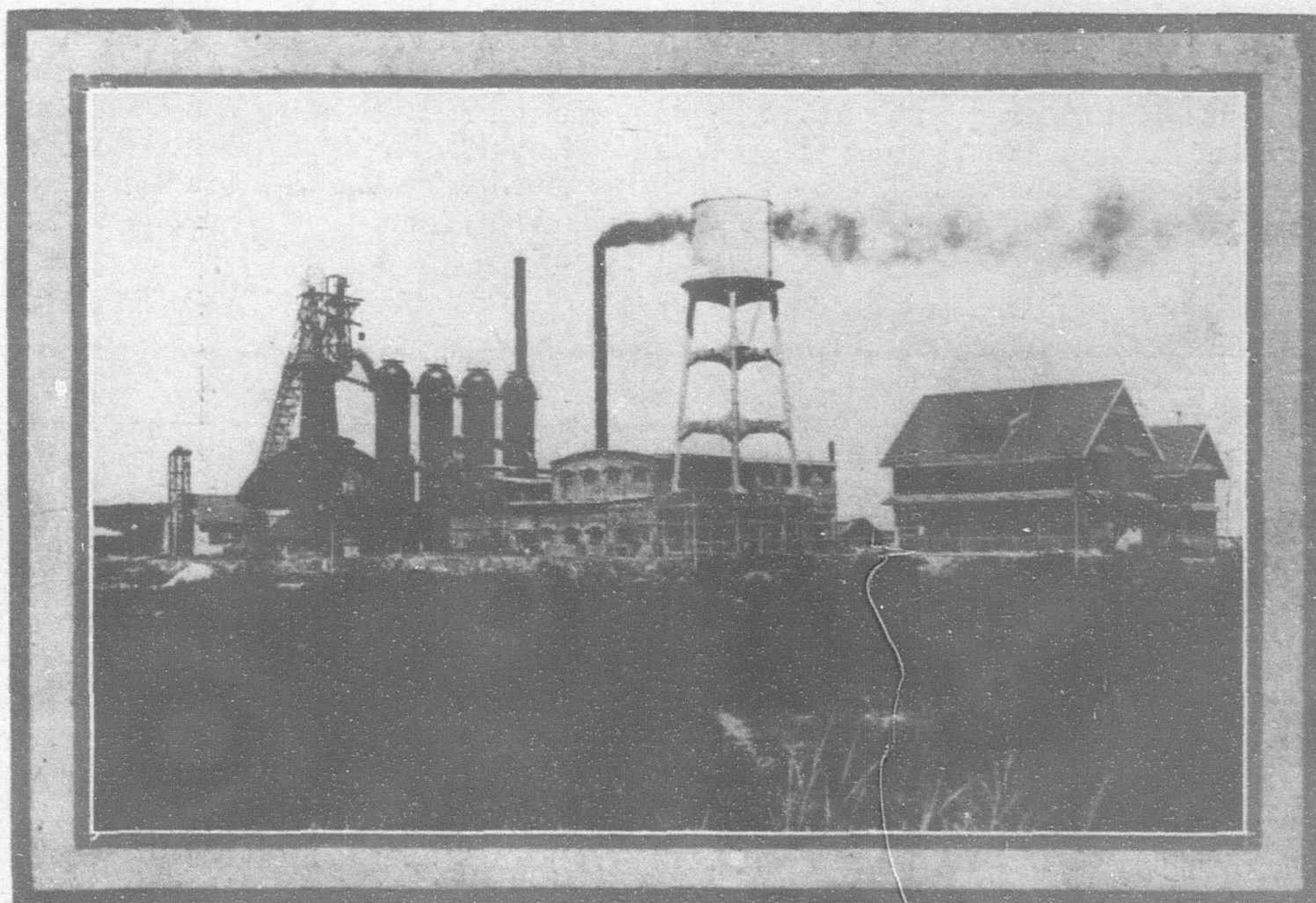
E. C. Eckel in his notable work on "Iron Ores" in 1914 classified countries into four groups as regards iron ore reserve, and again classified each group into four sub-classes on the basis of coal reserve. Table VIII follows the same method but uses different units. In this it is seen that China ranks first class in coal reserve and third class in iron ore reserve. Considering both, she stands next only to the United States.

Since the data here used are the most up-to-date available Table VIII may be useful as comparing the relative reserves of the principal coal and iron producing countries.

TABLE VIII.—Comparison of both Iron Ore and Coal Reserves of the Principal Countries in the World.

Coal Reserve	I. above 5,000 million tons	II. between 5,000 & 2,000 million tons	III. between 2,000 & 1,000 million tons	IV. below 1,000 million tons
A. above 500,000 million tons	A-I United States of America	A-II	A-III China	A-IV Canada
B. between 100,000 and 500,000 million tons	B-I Great Britain	B-II	B-III Germany	B-IV Australia
C. between 100,000 and 100,000 million tons	C-I France	C-II Russia India	C-III South Africa	C-IV Belgium
D. below 10,000 million tons	D-I Brazil	D-II Newfoundland, Sweden, Cuba	D-III Spain	D-IV Italy Japan

(a) Native production of iron ore assumed to be 500,000 tons annually (estimate of 1916). (b) Native production of pig iron assumed to be 170,000 tons annually (estimate of 1916). (c) Production of steel (except Wu-Hsing and others) not included in the estimate of domestic consumption. (d) Including also the production of Wu-Hsing and other electric furnaces assumed to be about 30,000 tons a year.



General View of Blast Furnace, Yangtsze Engineering Works, Ltd., Hankow

Production, Import, Export and Consumption of Iron Ores, Pig Iron and Steel

China's import of iron and steel is much more than its export, while its export of iron ores far exceeds its import. Manufactured iron and steel is the more important item of imports, largely from the United States of America and Great Britain. The annual consumption obtained by adding import to production minus export amounts to from five to six hundred thousand tons in recent years. The annual consumption of iron and steel per capita in China, therefore, is only about 1.5 kilograms, which is about 1/10 that of Japan, 1/100 that of either Great Britain or Germany, and 1/180 that of the United States of America. Table IX gives China's productions, import, export, and consumption of iron ores, pig iron and steel from 1912 to 1925, showing that her consumption is gradually increasing.

TABLE IX.—China's Production, Import, Export, and Consumption of Iron Ore, Pig Iron and Steel (in Metric Tons).

(A)—IRON ORE.

Year	Production (a)	Import	Export	Domestic Consumption
1912	721,280	141	203,165	518,256
1913	959,711	96	271,810	687,997
1914	1,005,140	10,672	297,059	718,753
1915	1,095,555	4,846	306,521	793,880
1916	1,129,056	29,743	280,784	878,015
1917	1,139,845	27,812	306,791	860,866
1918	1,474,698	15,842	375,664	1,114,516
1919	1,861,230	36,871	635,362	1,262,739
1920	1,865,985	19,942	677,544	1,208,383
1921	1,462,988	5,947	511,030	957,905
1922	1,559,416	1,270	667,183	893,503
1923	1,733,226	3,084	733,603	1,002,707
1924	1,765,732	1,574	846,833	920,473
1925	1,519,021	—	815,913	703,108

Japanese Interest in China's Iron

Japan, aware of her shortage of iron, has been during the last twenty years consistently striving to develop China's iron deposits. The three Manchurian deposits—Miaoerkou, Kungchangling and Anshan—are all in Japanese hands. The bulk of the valuable contact metamorphic deposits along the Lower Yangtze Valley is commercially under her control, since Tayeh, Tangtu and Tao-chung mines have all borrowed heavily from Japanese. The Chin-lingchen deposit of Shantung which has become a Sino-Japanese concern as a result of the Washington Conference was run solely by the Japanese between 1914 and 1919. Various Japanese financiers have also attempted to get control of the Fenghuangshan deposit of Kiangsu Province, and of the Hsuanlung deposit of Chihli Province. If the figures of Table IX are studied in detail it appears that at present about fifty per cent. of the iron ore output and about sixty per cent. of the pig iron output are exported. Practically all of the export goes to Japan. In all about ninety per cent. of the known iron resources in China have passed under Japanese control.

Conclusion

To sum up, the following points may be brought out:

- 1 The iron and steel industry in China is yet in its infancy, having only an annual production of about 1,500,000 tons of iron ore, 400,000 tons of pig iron and 30,000 tons of steel.
- 2 The known iron ore reserve of China is enough to meet the demand and is leading the countries of the West Coast of the Pacific Ocean. China's reserve will probably turn out to be much greater than the present estimate when her vast territories are surveyed and explored.
- 3 The known coal reserve of China is ample enough to smelt all of her known iron ore reserve.
- 4 Whether the bulk of these resources will ever be utilized for the benefit of China seems questionable inasmuch as the Japanese interest in China's iron is exceedingly great.
- 5 The annual consumption of iron and steel per capita in China, though small, is gradually increasing.
- 6 With the two natural governing factors—ore supply and coal supply—favorable, the iron and steel industry of China has a promising future provided financial and political conditions are normal.

A Foreign View of China's Iron Resources

The following extracts are taken from "Ores and Industry in the Far East," by Dr. H. Foster Bain, published by the Council on Foreign Relations, Inc., New York. Dr. Bain is personally acquainted with the subject, having, with a well-equipped staff of experts made extended field investigations in China for the New York Orient Mines Company.

Dr. Bain's considered opinion is that though iron ore is widely distributed in the Far East deposits of such grade and size, and in such situations as regards fuel, flux, transportation and markets as to be economically important, are rare. He points out that the Shansi iron industry is doubtless the oldest still in operation in the world, but though the wide distribution of iron in the province and the presence of small native furnaces in various parts of the country led to the general belief that the iron ore resources of the country are enormous numerous detailed descriptions and measurements have made it clear that the deposits which for centuries have supported a native iron industry have no significance under modern conditions.

A memoir of the Geological Survey of China shows that after a systematic study of the ores of the country those likely to be of value in building up a modern industry were found to be of three types (1) Archean ores, existing in north-eastern Chihli and Southern Manchuria, (2) Pre-Cambrian bedded hematite ores, deposits of which exist in the Hsuanlung region in north-western Chihli, and constitute one of the most important ore resources of China, and (3) Hematite and magnetite ores in genetic connection with igneous intrusions of grano-dioritic rocks of Post-Carboniferous age, which are widely distributed in Eastern and Central China, being encountered as far north as Manchuria and as far south as Canton. Deposits of economic value are found in Shantung and Honan but the greatest number of ore bodies, some of very considerable size, seems to belong to a belt along the Lower Yangtze Valley in the provinces of Kiangsu, Anhwei, Kiangsi and Hupeh.

(B)—PIG IRON AND STEEL.

Year	Production		Import			Export			Domestic Consumption
	Pig iron (b)	Steel (c)	Unmanufactured	Manufactured	Total	Unmanufactured	Manufactured	Total	
1912...	177,989	2,521	39,510	111,766	151,276	8,041	4,458	12,499	316,766
1913...	267,513	42,637	46,236	195,503	244,739	84,282	2,804	67,086	445,166
1914...	300,000	55,850	44,919	186,632	230,551	59,476	2,535	62,011	468,540
1915...	336,061	48,367	49,576	96,082	125,658	95,771	6,352	102,123	359,596
1916...	369,160	45,043	28,789	117,058	145,847	143,527	11,218	154,745	360,262
1917...	357,635	42,651	20,412	102,856	123,268	145,974	17,309	163,283	317,620
1918...	354,144	56,996 (d)	14,085	135,032	149,117	168,241	20,844	189,085	344,176
1919...	446,588	34,851 (d)	53,950	271,208	325,158	162,614	3,810	166,424	635,322
1920...	427,648	68,260 (d)	68,204	298,418	366,622	183,922	12,885	196,807	627,463
1921...	402,787	76,800 (d)	30,265	242,517	272,782	158,886	3,804	162,690	542,870
1922...	393,694	30,000 (d)	68,257	296,618	364,875	201,752	7,857	209,609	578,960
1923...	343,442	30,000 (d)	44,478	265,339	309,817	201,498	12,041	213,539	469,720
1924...	330,521	30,000 (d)	54,520	439,104	493,624	263,367	6,337	269,704	584,141
1925...	369,617	30,000 (d)	59,441	345,825	405,266	158,697	2,632	161,329	643,554

The Archean type of ore is credited by Mr. F. R. Tegengren with a possible 772,000,000 tons containing just under 35 per cent. of metallic iron, contained in a zone extending from the Korean borders across the Manchurian province of Fengtien, a total distance of 350 miles. Specifically, he estimates the total high-grade ore in the four Manchurian districts as amounting to but 6,300,000 tons.

Mr. C. F. Wang, a Columbia graduate connected with the Sino-Japanese Company operating coal and iron mines and blast furnaces in the Penchihi District, credits the magnetite belt in Fengtien Province "including rich and poor," as a possible 500,000,000 tons of ore, and to the Miaoerkou ore body some 100,000,000 tons, of which 2,000,000 contains 60 to 70 per cent. of iron.

Dr. Bain commenting on this deposit, writes: "In considering the real value of the Archean ores it is clear that their grade is all important. The analyses quoted by Tegengren show that he as well as Wang classified as high-grade ores those ranging from 60 to 70 per cent. in iron. The lowgrade ore ranged from 34.58 to 37.83

per cent. in iron with silica of 45.74 to 49.84. Such material is not suitable for the furnace but requires preliminary treatment. The fact that much the larger part of the material found in the iron-bearing belt is of this grade and character was not at first recognised, and both the Penchihi and Anshan companies have found themselves obliged to revise their plans to meet this situation." The methods of treatment which have to be adopted, Dr. Bain points out, add to the cost of the furnace burden and constitute a handicap for enterprises dependent upon these deposits, and in his opinion, "For the present, and for a period that is not feasible to define, the iron-bearing rocks of the Archean in Fengtien and

Chihli can only properly be considered ores to the extent that they contain ore of the 'rich' class. So far as present knowledge goes this reduces them to a minor position. . . . In the records as now known there is nothing to warrant belief that the region offers opportunity for development of an iron and steel industry of world importance."

"Probably the most important single iron ore region in China," Dr. Bain continues, "is the Hsuanlung in the rough mountainous belt that separates the Chihli plain from the Mongolian plateau. Here, 135 to 170 miles north-west of Peking, is a remarkable series of deposits of which the importance was not recognized until 1914. It was Bailey Willis, apparently, who first, recognizing the geological similarity of the formations of this horizon to those in the Lake Superior region, suggested that search for iron ore might well result favorably.* No attention seems to have been paid to this hint, if indeed it was known in China, and attention was first attracted to the deposits by sale of some of the ore for making red paint in 1912.† The deposit attracted the attention of Okura & Co., but was condemned by Japanese experts evidently unfamiliar with this type of ore. When in 1914, it was called to the attention of J. G. Andersson he at once appreciated its possible importance and under his advice the Geological Survey made the topographic and geological surveys and did the sampling that demonstrated the value of the deposits.

The iron is found in the form of a series of oblitic and stromatolitic sedimentary beds between slates and quartzites. The beds are of workable thickness, will situated for mining, and, as already indicated, the total tonnage is of the order of 90,000,000, with an average composition of:

	Per cent.
Fe	
Fe	55.10
SiO ₂	16.10
P	0.15
S	0.03

The ores are similar in occurrence and in appearance to the "Clinton" ores which form the basis of the iron industry of Alabama;

and owing to the mode of thier occurrence and the care with which the surveys were made, confidence in the tonnage estimates in fully warranted despite the fact that they were preliminary only. Unfortunately, as contrasted with Clinton ores, the impurity is mainly silica in place of lime. This makes the ores more expensive to smelt because lime must be added and more fuel needs to be used. None the less they form a suitable basis for an iron industry, the difficulties involved being those connected with the cost of assembling scattered raw materials and marketing the output.

The third important class of iron ores in China, and the one which has so far furnished most of the iron, is the contact-metamorphic ores. An estimate of the amount available at various points has already been given, and the actual reserves are placed by Tegengren at 73,015,000 fons containing 40,853,000 tons of iron. It is notoriously difficult to make accurate advance estimates of tonnage in contact-metamorphic deposits. The bodies are extremely irregular and continuity in any direction can not be as-

sumed in advance of actual exposure. This accounts for the fact that the uniform result of closer studies of the individual deposits in this class has been to decrease the amount of ore apparently present. Since sharp controversy, at times threatening international complications, has raged around several of these occurrences, a few detailed examples may be cited.

Chinlingchen is a station on the Shantung railway 175 miles west of Tsingtao. Near it, in some low hills rising out of the plain, iron ore occurs along a contact between Ordovician dolomite and diorite. In ancient times the ore was mined and smelted by using coal, which occurs in outliers of the Carboniferous nearby. These deposits attracted attention

while the railway was being built and plans were made to work them and to reduce the ore in blast furnaces to be built within the Tsingtao concession. A company, in which the Krupp interests were concerned, was formed for this purpose. The estimates of reserves then made public called for 100,000,000 tons of ore of which 49,000,000 tons was considered fairly definitely assured and 20,000,000 tons easily worked. The analysis given was.

	Per cent.
Fe	65.00
Mn	0.24
P	0.03
S	0.08

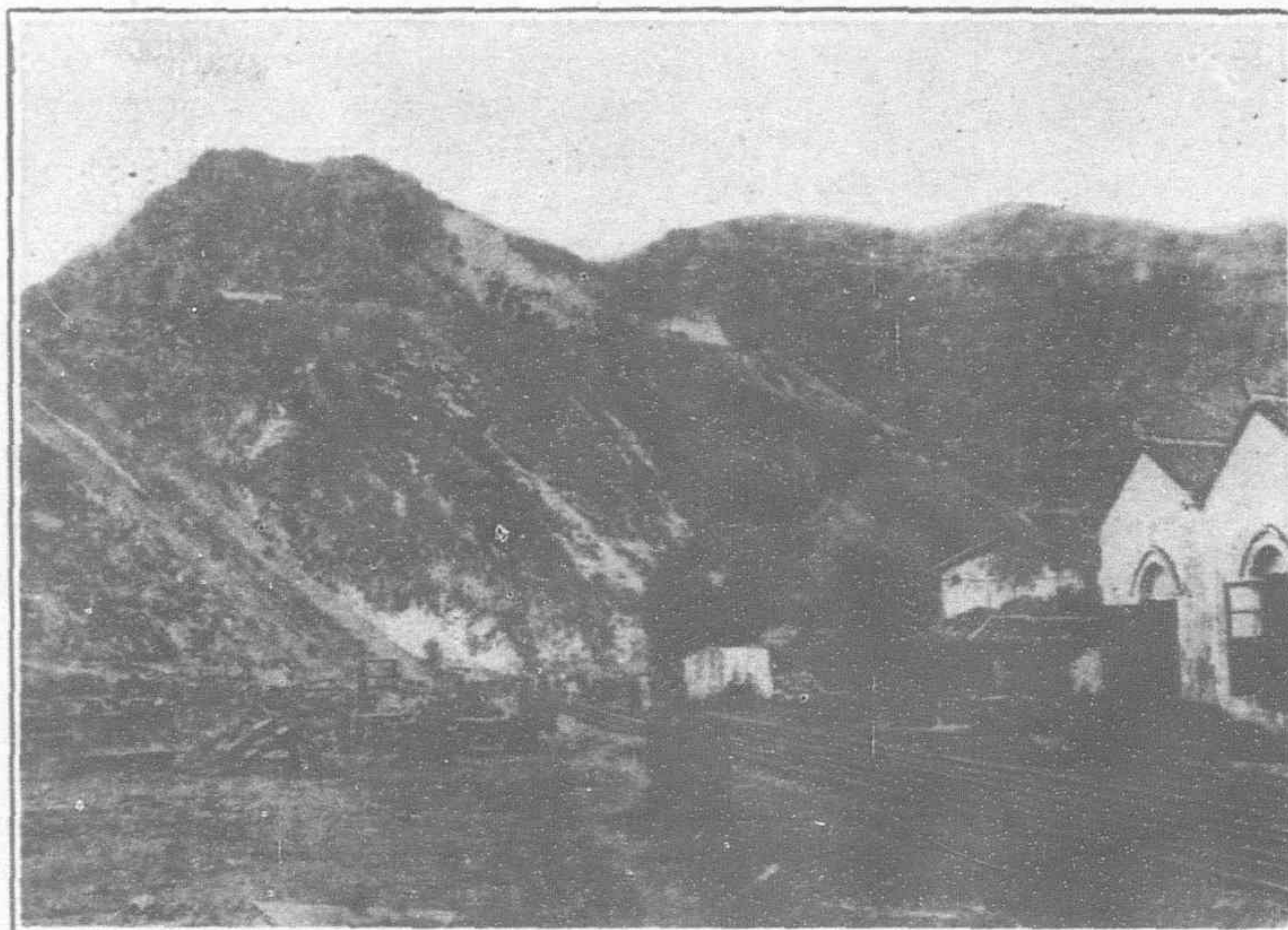
The German plans were stopped by the war and when the Japanese took control it was wisely decided to check the ore estimates by diamond drilling. No complete statement of the results was made public but those that became available, such as an estimate of 17,800,000 tons in the Szepaoshan deposit, proved later on field examination by Andersson and his assistants‡ to be much too large. As the final result of Andersson's field examination and study of the results of German and Japanese drilling, a probable reserve of 13,700,000 tons of ore in the Tiehshan deposit was allowed and the other occurrences rated as unimportant. The grade of the ore will also, as it appears, prove to average materially below expectations¶ as shown by the following quotation:—

"The samples of surface ore have evidently been taken mostly from these rich and hard outcrops which have best withstood the destructive agencies. They show very high iron content (66.51 per cent.) and low content of sulphur (0.066 per cent). At the same time they are low in silica (3.14 per cent.) which may seem strange at a first glance

*"Mineral Resources of China." Economic Geology, Vol. III, p. 29, 1908.

†For history and detailed descriptions, see Tegengren, F.R., "The Iron Ores and Iron Industry of China," pp. 24-87.

‡ and ¶ Tegengren, F.R., "The Iron Ores and Iron Industry of China."



Tayeh Iron Mine

but is easy to understand, when considering that the silicate (epidote-rock) is more easily destroyed by weathering.

	<i>Surface Ore</i> (Average of 11 analyses)	<i>Underground Ore</i> (Average of 15 analyses)
Fe	66.51 per cent.	55.27 per cent.
S	0.066 "	0.66 "
SiO ₂	3.14 "	10.46 "

"At deeper levels we get lower content of iron (55.27 per cent.) and correspondingly higher percentage of sulphur (0.66 per cent.) and silica (10.46). This is a fact of considerable practical importance. In the early reports the Tiehshan ore was described as exceptionally rich in iron and low in sulphur and silica. But as mining has progressed to some depth below the surface, it has become increasingly clear that the average ore to be mined in deeper levels hardly will exceed 56 per cent. in iron and that the content of sulphur and silica will probably be about 0.1-0.06 per cent. and 10 per cent. respectively."

Another instance of shrinkage in estimates that may be cited is in connection with the orebodies at Tayeh which from the source of supply for the Hanyehping furnaces near Hankow and the new furnaces at Tayeh. These deposits and the enterprise itself have been so fully and completely described* that it is not necessary to go into details.

The deposit is of the usual type common in the Yangtze Valley developed along the contact of a diorite intrusive and limestone which in this case are probably but not certainly of Permo-Carboniferous age. Tegengren cites two estimates earlier than his own made in 1921. One was made in 1911 by Leinung, the German engineer early connected with the enterprise, who placed the reserve at 103,934,375 tons. The other was prepared in 1905 by LeRoy, an engineer then in the Imperial service, and gave a total of 17,910,000 tons. Tegengren's own estimates gave 32,000,000 as the original gross tonnage subject to reduction for rock inclusions and for ore already mined. As a net figure he came to 19,262,000 tons as ore remaining to be mined above water level.

Still another deposit which has given rise to sharp controversy is the Fenghuangshan and neighboring orebodies near Molingkuan about twenty miles south of Nanking. These deposits were brought to the attention of the Geological Survey soon after the latter was organized. A topographic map was made by Army engineers and a reconnaissance study was made by Andersson. On the basis of outcrop and extent above flood plain a tentative estimate of 40,000,000 tons of mineable ore was made. I later visited the deposit but there being no additional data the early estimate was accepted, subject to confirmation by drilling or test-pitting. A sharp controversy as to title ensued and it was not until 1920 that it was possible to make the necessary excavations, when three tunnels and 20 trenches were cut across the orebody by experienced engineers and studied by Andersson and assistants. As a result the tonnage down to river level is now estimated at 4,300,000 of which 2,000,000 is available by open cuts.†

Newspaper comment and early Consular reports were full of accounts of large iron ore deposits in the Ankhoe district of Fukien but persistent search in 1917 by N. L. Wimmeler and George Scarfe, engineers of the staff of the New York Orient Mines Co., failed to find any deposit with a probable tonnage of more than 2,000,000. In one case a mountain of dark porphyry had evidently been mistaken for a "mountain of iron ore."

This uniform shrinkage of deposits when submitted to careful examination and test, can not be without significance. Many more examples might be cited. Such mistakes are not uncommon on the part of unskilled observers, and in the main the knowledge of Chinese ore deposits that has found its way into popular and semi-popular writings has rested on information either far from complete or based upon observations of persons not trained either as geologists or engineers.

Only a small portion of the available data on Chinese iron ores has been here quoted. It is all to be found or is cited in the Tegengren report already mentioned, and on all critical points Tegengren's estimates have been checked by other engineers. The evidence would seem to be conclusive that there is no warrant in

present knowledge for the expectation that China will be able to supply iron ore that will contribute to the world's exportable surplus to any considerable degree or even that China can support for any long period a domestic industry consuming steel per capita at a rate comparable to those in Western countries. As Tegengren points out:‡

"The total quantity of iron ore (both actual and potential) represented by the figures above would be consumed by the iron industry of the United States within less than nine years."

When account is taken of the larger population of China and the commitments already made to supply ore or pig iron to Japan, it must be clear that China can not go over to any modern basis of industry without importing enormous amounts of steel.

The present iron and steel industry in China has been discussed by many writers but the best summary statements are those of Tegengren¶ and Hoyt. || Tegengren described the native furnaces and methods of production and points out the various excellent reasons why they can never be expected to contribute iron to general trade. He lists 16 blast furnaces at 7 plants having an aggregate theoretical daily capacity of 2,700 tons or 900,000 tons of pig iron per year, but is careful to point out that at least two of the stacks are obsolete and that the remaining 840,000 tons annual capacity could only be achieved under most favorable conditions. He also points out that pig iron production of recent years has ranged between 200,000 and 300,000 tons and that of this 160,000 to 200,000 has been annually exported to Japan. On the other hand, iron and steel have been imported to the amount of about 300,000 tons per year, making the net domestic consumption 550,000 to 600,000 tons per year.

Hoyt only credited the country with 12 stacks of 100 to 450 tons daily capacity, rating the others as obsolete. He considered that if the furnaces lived up to their capacity, 900,000 tons of pig iron could be made per year, but noted that at the time he wrote, the output was actually at the rate of 180,000 tons. His report and supplements go fully into details as to plan, costs, and efficiencies. He considered it doubtful whether any of the Japanese-owned furnaces in China could deliver pig iron at Kobe at less than \$38 gold per ton and stated that: "Every furnace now operating in China, should on the basis of cost and relation to selling price, be blown out at once." He found that all the furnaces then running were doing so by virtue of a government subsidy in some form. He also judged that it would be many years before the blast-furnace practice in China and Manchuria would approach the efficiency common and necessary in the United States. He closed his report with the conclusion that: "Until coke is delivered at the furnace stock-house at a cost approaching that in America, China will continue, as she is to-day, a country without a steel industry." This careful study of actual conditions by one familiar with modern steel making is especially worth consideration.

The following tribute is paid by Dr. Bain to those who established and developed the Geological Survey of China:

"In the closing years of the Manchu dynasty's rule over China, there was great interest in the mineral resources of the country and when Yuan Shih-kai became President, far-seeing plans were made for the study of the mineral and other resources preparatory to their development along modern lines. A geological survey was organized under the direction of V. K. Ting, who had received both a Chinese and a foreign education and had recently graduated at the University of Glasgow in Scotland. With him was associated W. H. Wong, who received his degree at the University of Louvain. At the same time, J. G. Andersson, the well-known Director of the Geological Survey of Sweden, was called to China to serve as Mining Advisor to the President. He associated with himself E. T. Nystrom and F. R. Tegengren, both experienced mining geologists. Messrs. Ting and Wong, recognizing the size and responsibility

*Read, T. T. "Mineral Production and Resources of China." Trans. A.I.M.E., Vol. XI, III, pp. 28-34, 1912.

Weld, C. M., "The Tayeh Iron Ore Deposits," Trans. A.I.M.E. Vol. XLIV, pp. 27-37, 1912.

† Tegengren, p. 250.

‡ p. 293.

¶ Pt. II, pp. 297-403; especially p. 396.

|| "Blast Furnaces and Steel Mills in China," Lansing W. Hoyt, Trade Commissioner, Bureau of Foreign and Domestic Commerce, Rept. No. 4373. Washington, August 15, 1922.

of the task committed to them, and the need of an adequately trained staff, spent the first two years in the conduct of a Geological Institute at the University in Peking, training some thirty selected students in the principles of modern geology and methods of making surveys. From among the graduates of this course eighteen were selected, who became the working staff of the new Survey. A number of these have since supplemented their home training by graduate studies abroad.

"Ting and Wong proved to be not only good geologists and good organizers but inspiring leaders, and the young men who have worked with and under them have given excellent account of themselves. With inadequate appropriations, poor and uncertain pay,

amid civil war, and faced by every discouragement, this little force has done a surprising amount of scientific work fully comparable in quality to that turned out by similar organizations in other lands under happier circumstances. The familiarity of the staff with both Chinese and foreign literature has given it a special advantage and makes its reports peculiarly valuable. Too many foreign experts misunderstand or misinterpret things Chinese or fail to tap resources of local information; while on the other hand Chinese writers who, unlike this group, have no foreign experience, are necessarily handicapped by lack of appreciation of the underlying economics and technology on which development in the industrialized countries rests."

Tungsten Trade of China

PERIODIC reports by the U.S. Consuls at Shanghai, Hankow, Changsha, Hongkong, and Canton have been called for on the Chinese tungsten situation. The first has now been published. There are three chief production zones of tungsten ore in China. In the Province of Kiangsi mines are located at Kanchow, East River, and West River. Their combined production is understood to amount to 300 to 350 tons of ore per month, and their original exportation is made through the port of Kiukiang, largely to Shanghai. The second zone is in Kwangtung Province, the mines there being at Tayulin. Production reaches about 200 tons per month, and cargo is generally exported through the port of Hongkong. In the Province of Hunan approximately 25 tons of ore are produced monthly in the mines at Ton-on.

Tungsten ore from Kiangsi and Kwangtung Provinces is generally about 70 per cent. WO_3 (tungstic acid), while that from Hunan is of lower quality, running about 65 per cent. WO_3 . Kiangsi ore is received from the mines in 100-lb. and Hunan in 224-lb. gunny sacks. No repacking is done, except as it is made necessary by the condition of the sacks.

Kiangsi Chief Producer.—Kiangsi Province contains the Chinese districts producing the largest amount of saleable wolframite or tungsten, and most of this moves through the Yangtze River port of Kiukiang, approximately 453 miles above Shanghai and 142 miles below Hankow. Many districts west and south of Kiangsi have been found to have wolframite deposits, but in nearly all of those so far tested the ore has a larger proportion of tin than the market at present accepts.

Tungsten is also found in the hills to the south and south-east of Puerh Fu (Chien Pien Ting district), in the Wa States, near the Burmese border. It is usually found in small crystalline lumps or lustrous laminae, and is obtained from river washings in conjunction with gold and tin. These deposits in Yunnan are not yet worked, but the corresponding ores in Burma are being worked.

According to Shanghai dealers working with up-country brokers, a large proportion of the ore moving through Kiukiang is collected by coolies and farmers, when they are not regularly employed, and turned over in small parcels to agents of native houses at Kiukiang. One Shanghai firm says that it understands some of its ore is taken from a fairly large bank, but it has never been in direct contact with the persons who sell this ore to Chinese middlemen in Kiukiang, and it is not able to give the exact location or name of the district. Much of the tungsten passing through Shanghai is said to be washed from river beds and from surface soil. Many samples show erosion, some being in the form of pebbles.

Forward trading in tungsten ore is almost unknown in China. One of the European dealers longest in the trade recalls only two or three occasions when cargo was signed for before its arrival in Shanghai, and this was purchased from a reliable Chinese middleman, who gave a bond for delivery of the quantity ordered. Among the reasons are the uncertainty of delivery of any given quantity of ore by the Chinese middlemen, the possibility of price fluctuation between the dates of ordering and delivering, and the fear by foreign houses that middlemen, unable for several weeks to make delivery in Shanghai, may include in cargo a proportion of ore suspected of having a high tin or silica content in the belief that the foreign firm will send it forward rather than wait further.

Export Figures.—The Chinese Maritime Customs service began issuing yearly reports of wolfram exports in 1923, when

China shipped 3,983 long tons, valued at \$650,406, according to the average conversion figure for that year. Complete figures for 1926 have not yet been issued, but those for 1924 and 1925 were to the countries shown, the tonnage being as follows:—

	1924.	1925.
	Long tons.	Long tons.
Hongkong.. .. .	924	608
Great Britain	683	650
Germany	836	1,894
Netherlands	85	45
Belgium	150	318
France	309	1,212
Italy	—	71
Japan (including Formosa)	—	123
United States (including Hawaii)	8	951
Total	2,995	5,872

During the first nine months of 1927 shipments to the United States totalled 963,120 lbs., valued at \$110,710, although none was recorded for January, March, August, or September. Larger quantities, according to dealers, were sent to Europe, especially Germany, England, and France, although during August and September buyers there were also quiet. It is stated in Shanghai that the German combine centering in Hamburg is refraining from the Chinese market in the hope of reducing prices there. Prediction is made locally, however, that in coming months demand will surpass production.

American firms have followed the practice of telegraphing an offer setting a limit within which buying may be done. The Shanghai market, consequently, has continued to follow markets abroad, news of which has been received telegraphically. There being no exchange or association providing a centre for information, it is not possible to give an official estimate of the tungsten stocks now in Shanghai, but low prices during recent months have caused dealers to reduce quantities on hand, and it is thought that at the end of September there were probably less than 100 tons (possibly not more than 50) available in warehouses in the city.

The difficulty of securing reliable information from the interior is greater than that of learning of activities in the city. Nearly all of the ore reaching Shanghai is from Kiangsi Province, which, in fact, furnishes about three-quarters of the Chinese production. There has been labour trouble in that Province and demands for higher wages have been met by commission dealers, but in only about the proportion, it is reported, that local paper money has depreciated.

With smaller demand, however, it seems certain that operations have been reduced. Chinese production of tungsten ore is mainly in the hands of individuals or small groups of country people who began working stream beds and surface deposits since discovering its value a few years ago. When some adjustment places this part of the country on an improved monetary basis, agents collecting tungsten will be required to pay a larger equivalent in the world monetary standard. When such an adjustment may occur cannot be predicted at present.

Irrigation in Siam

THE Administrative Report of the Royal Irrigation Department of Siam for the period 2457 B.E.-2468 B.E. (British financial years 1914-15 to 1925-26 inclusive) provides matter for a brief summary of the short history of large-scale controlled irrigation in that country, and for descriptions of some of the more important works and projects. There are also furnished data relating to physical, climatic and commercial conditions, such as enable the reader to form some idea of the general character of this field, in which irrigation is likely to exert far-reaching influence and bring about developments providing employment for engineers. In Siam, irrigation works, such as are being carried out by the Department, have a protective aspect in a minor degree only, their main purpose being to increase production, export and revenue.

Siam is a country in which engineers—civil, mechanical and electrical—as well as contractors and manufacturers of plant in those and other branches are likely to be increasingly interested, possibly to an extent which will surprise those who have not followed recent developments in that well-governed kingdom of some 9½ million persons. Especially should irrigation engineers be concerned to note the activities which are largely due to the labors and advice of the engineers of that branch, whose services the Indian Government lent to the Siamese Irrigation Department, 1913-1915.

Topography, Soil and Rainfall

That portion of Siam, 30,000 square miles, which is on the Malay Peninsular, is for the most part hilly. In Eastern Siam, 65,000 square miles, the chief feature is a shallow, unproductive depression surrounded by hills. Northern Siam, 60,000 square miles, is mostly forest and mountain land. Except as regards rivers flowing from Eastern and Northern Siam to the Central Plain, none of these areas is of importance in the present discussion.

The Central Plain, 55,000 square miles, is almost entirely deltaic, with a few isolated hills. The soil is a stiff alluvium, frequently enriched by floods carrying silt. As in other such areas, the rivers, in the slightly higher-lying portions of the delta, flow on ridges higher than the plain. About a quarter of the plain is cultivated, and the extension of this cultivation depends in part on irrigation and in part on transport. The four chief affluents of the Chenam Chao Phayo, the one great river system of the country, after uniting in pairs, join to form one stream at Paknampoh, 140 miles in a direct line from the sea. From that point the river becomes truly deltaic, dividing into many winding watercourses. Bangkok—population 600,000 and 20 miles from the sea—can be reached by steamers of 1,500 tons.

In Central Siam there is a hot season, March-May; a rainy season, June-October; and a cool season, November-February. In a sense the wet season may be considered to begin at the end of April and to last till the middle of November. The rainfall over the catchments of present and future irrigation is from 39-in. to 50-in., with an average

of about 43-in., while over the irrigable areas it is about 47-in. This proportion vitally affects, of course, the general policy of irrigation, which, however, is dominated by the general condition that the works are those of river diversion, with maintenance of command, but only small storages; in a word, barrage irrigation. Most of the water will be available for increasing production, though in some cases it will in dry years be used in part for the maturing of crops which would otherwise be lost.

In the plain of Central Siam the rainy season is, as indicated in the report, taken as June-November, or part of November, the averages being:—For the season, 41.4-in.; June, 6.2-in.; July, 7.0-in.; August, 7.3-in.; September, 10.7-in.; October, 8.0-in.; November, 2.2-in.

From a table in the report it is found that the average for the principal stations in the plain is 42.3-in. for the year. For the kingdom as a whole the figures are: Rainy season, 48.4-in.; the year, 63-in. From February to October the temperature in the plains is nearly always between 79 deg. and 98 deg. Fah., while

from October to February the range is from 54 deg. to 92 deg. Fah. The average rainfall of 41.4-in. for the rainy season in the Central Plain is compared with the following:—Burma, 157.5-in.; the plains of Indo-China, about 71-in.; Annam, 73-in.; Cochin China, 60-in.; Cambodia, 61-in. The depth of water needed for the rice crop in Siam is 72-in., and upwards, so that more than 30-in. must be supplied from the rivers in years of average rainfall or less. The most favorable areas have long been developed by

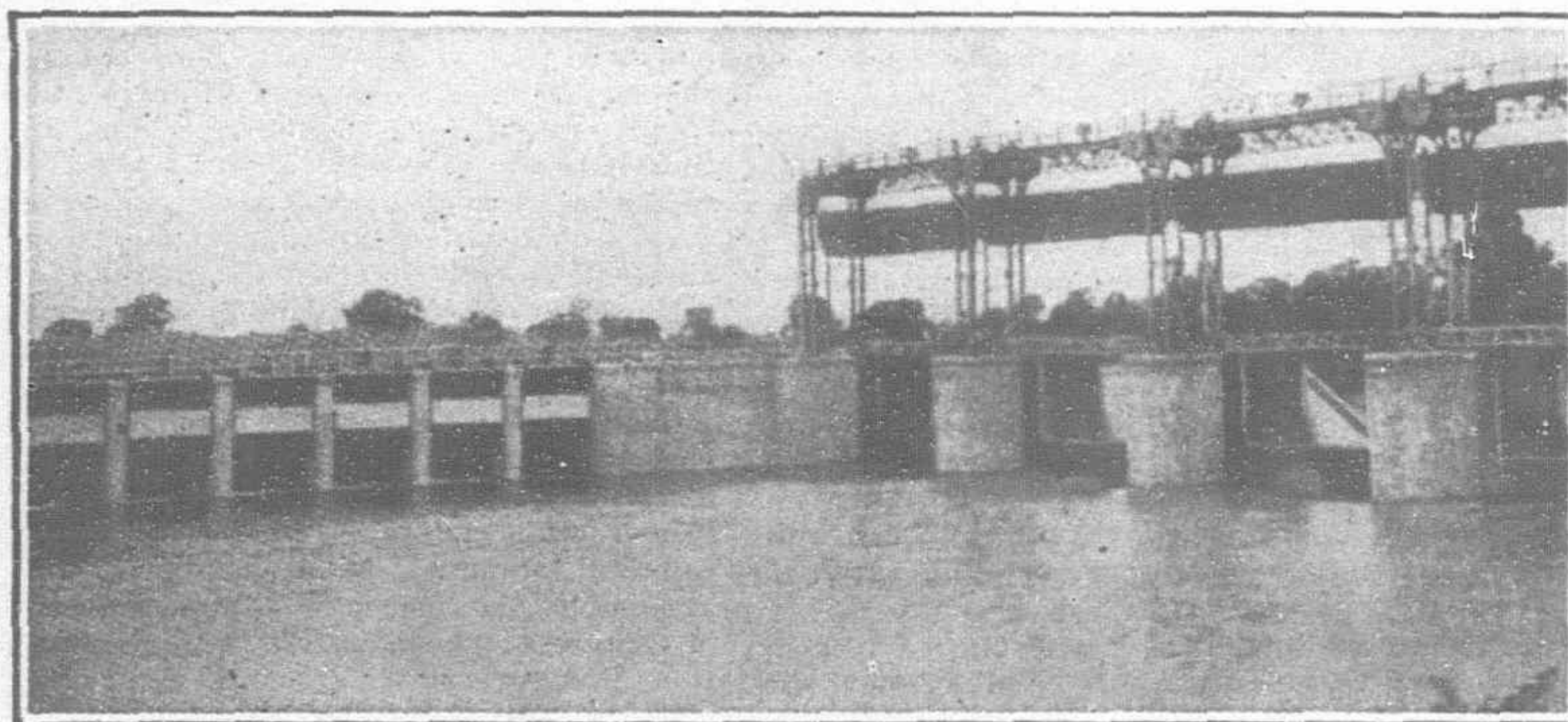
means of artificial channels through the river ridges and by inundation during floods. The new works will serve similar productive areas which are less favorably situated in those respects.

Controlled Irrigation

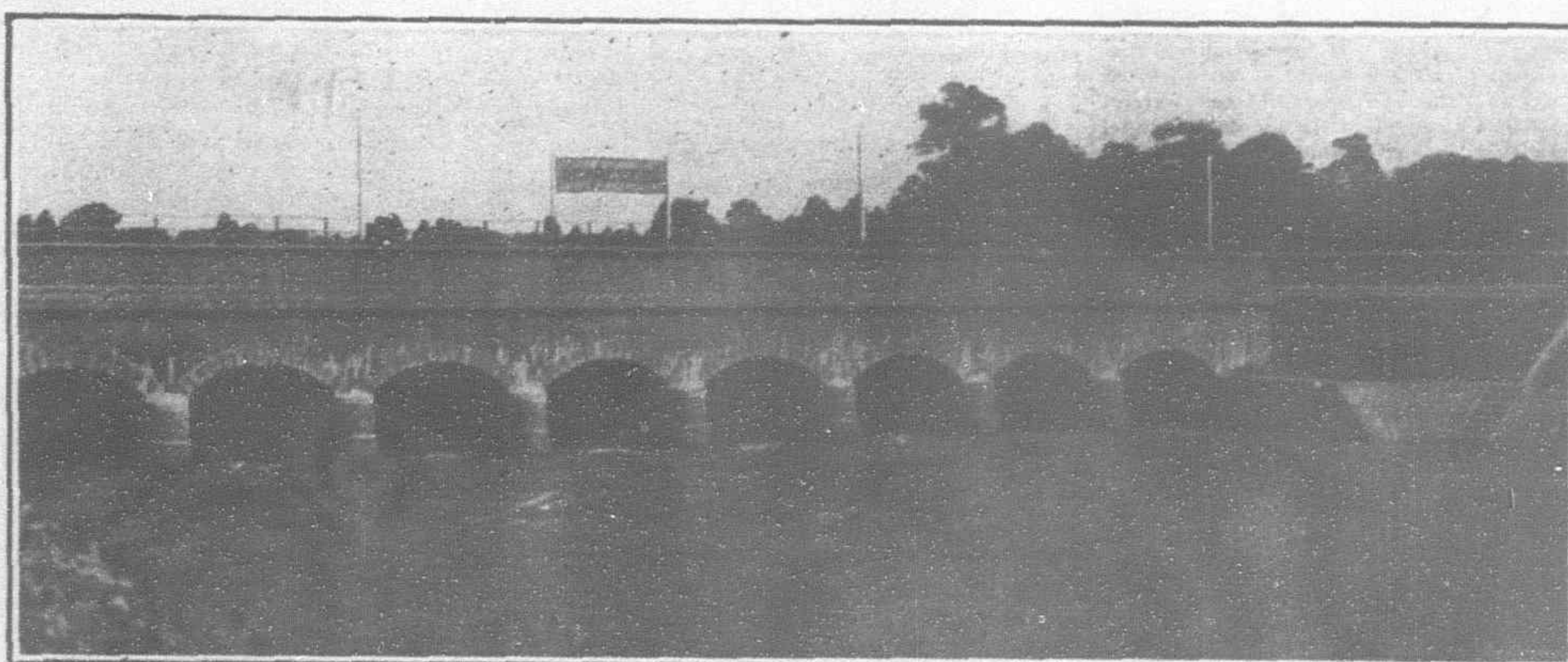
The first important effort towards the organizing of irrigation on a large scale resulted in the establishment, in 1884, of the enterprise known as the Rangsit Concession, whereby a system of inundation canals was completed in 1896, and 350,000 acres of very good land brought under cultivation. The area in which rice matured did not, however, exceed 140,000 acres. This concession reverted to the Government in 1915, and the works were taken over by the Irrigation Department.

The subject of Government-organized and controlled irrigation was first taken up in 1902, and Mr. Homan van der Heide, a Dutch engineer, was appointed to study the area. In his report (1903) he advised that a great controlling barrage should be built across the

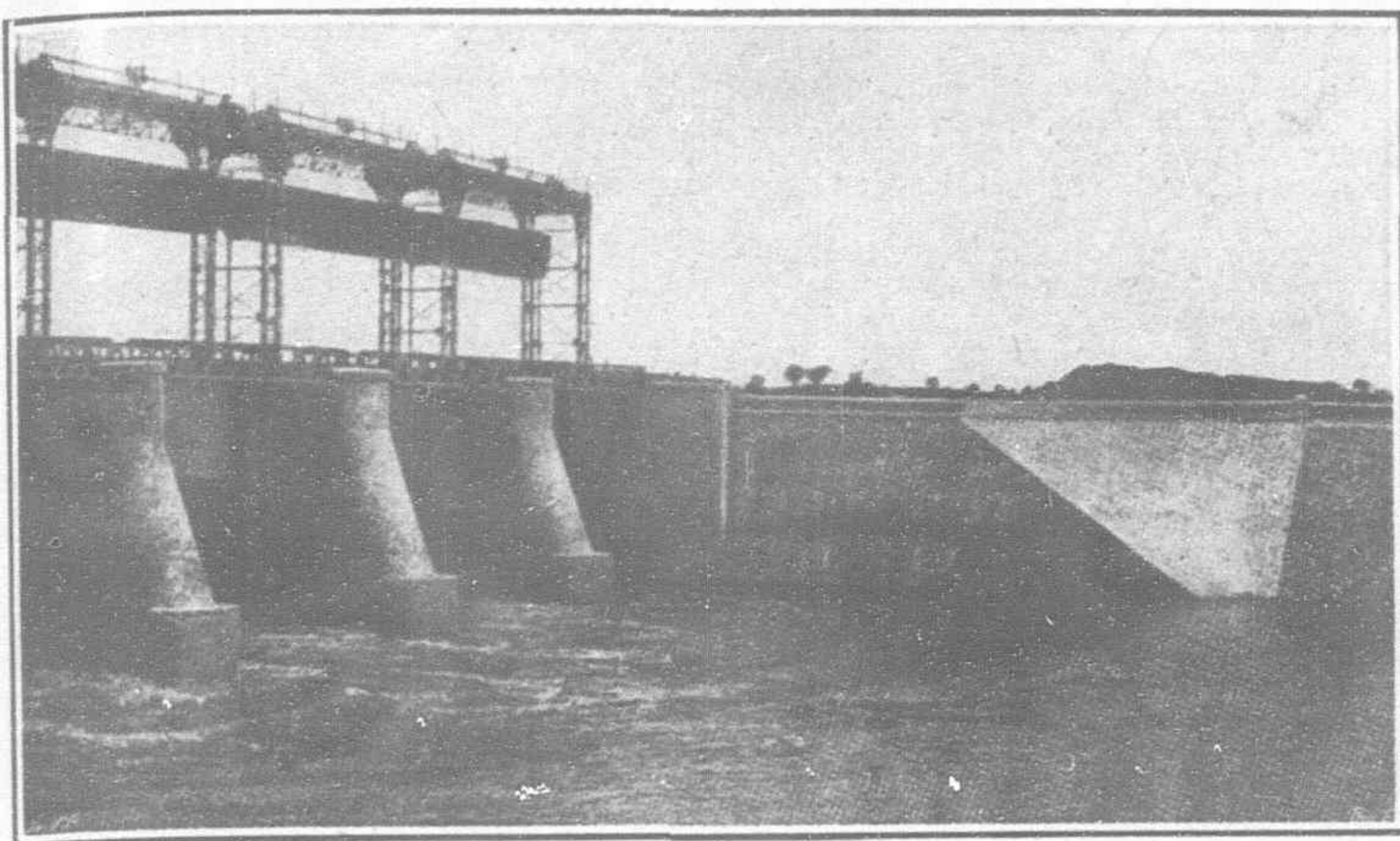
Chao Phaya at Jainadh at the head of the delta, and the water distributed by three large perennial canals. Such a master barrage was, however, considered too ambitious a project, having regard to what might suffice for many years. An Irrigation Department was formed in 1904, with Mr. Homan van der Heide as Director-General, but although some useful navigation works, as well as other minor



Prasak Barrage and Regulator from Upstream



Prasak Barrage—Head Regulator of Southern Main Canal



Prasak Barrage and Regulator from Downstream

works, were carried out, the irrigation schemes which were better suited to the needs of the country were not taken up with energy until the appointment of a Commission in 1912. In 1913, at the request of the Minister of Agriculture, the late Prince Rabi, and by the help of Sir Arthur Peel, the British Ambassador in Siam, the services of a party of engineers were lent to the Siamese Government by the Indian Irrigation Department for eighteen months. Information was collected and supplemented and investigations made, the results being embodied in Sir Thomas (then Mr. T. R. J.) Ward's report. His recommendations were based not only on conditions as regards water and crops, but also on broader grounds of policy and the welfare of the populations to be affected, indirectly as well as directly, by the proposed works. The building of a barrage across the main artery of the country would, he pointed out, present problems affecting much more than irrigation, but he added that a time might come when with a strong demand from a growing population for large, new tracts of irrigated land, the Government, having learned how to solve correctly problems the nature of which he had explained, would find a main river barrage not only desirable, but necessary.

For the immediate future, his specific recommendation was that five schemes, each independent of the others, should be sanctioned, one of them, the Prasak Project, to be taken in hand immediately. In the description of these works information derived from an earlier report of the Royal Irrigation Department and from the Project Estimates has been incorporated with that supplied in the Administrative Report.

Administrative Report, 1914-15 to 1925-26

This report contains much information other than that directly relating to the principal works and projects, and presents many facts and data which provide a basis for the understanding of the nature and scope of the work of the Department. Much of the information is, moreover, of considerable interest administratively or technically. We can, however, make a few selections from it.

In order to cope with the low-water conditions of 1919-1920 it was necessary to raise water from the rivers by pumping to the fullest possible extent. There was not time to obtain large pumps from abroad, but useful work was done by using the Department's dredgers as pumps, an area of 21,500 rai (8,492 acres) being saved by this means, at a cost of Tcs. 1.91 per rai, or 8s. 9½d. per acre.

The Bangkok Dock Company had a 24-in. centrifugal pump driven by a 60 b.h.p. marine compound engine. Since no boiler could be furnished, one which belonged to a steam shovel was retrieved from an abandoned tin mine. This scratch plant did good work: 42 cubic metres per minute against a head of 4 m. Recourse was also had to pumping in 1920-1921 and 1921-1922. In the following year the Department bought two sets of low-lift centrifugal Gwynne pumps, each direct coupled to an Allen heavy fuel oil engine of 140 b.h.p., and rated at 30 cubic feet per second against a head of 25-ft. These irrigated 25 rai per hour at a cost of 0.17 ticals per rai, or less than one-tenth of the cost with dredgers, say, 9½d. per acre. These pumps are mounted on a 50-ton steel barge. Another such barge carries a 60 b.h.p. pump and smaller pumps are mounted in barges of 45 to 15 tons, the former being of reinforced concrete.

An abiding trouble with which the conservancy branch has to deal is the obstruction of waterways by Java weed. The cost, some few thousands of pounds a year, is not important, but it must represent work necessary to deal with serious obstruction. This plant, a species of water hyacinth with a beautiful blue flower, is beginning to give trouble in Indian canals also, where timely measures of persecution may, however, suffice to eradicate it. Unless it be dealt with energetically, it forms dense masses which not only prevent navigation, but also stop the flow of water. The first specimens in Siam were brought from Java by the Queen, who placed them in her garden—hence the name, though it is also called "Florida weed," since its original habitat is believed to be in that State, while its appearance and qualities have earned for it the familiar appellation of "blue devil."

The Prasak Barrage Irrigation

Amongst major works, the Prasak irrigation works, which were formally opened in November, 1924, after having been in operation for some time, are the most notable. The run-off of the catchment of the river Prasak is about 25 per cent. of the rainfall. The ruling feature of the Prasak irrigation is that the water at full supply level upstream of the barrage is only 4.5 m., or less than 15-ft., above mean sea level. The river bed is 1.3 m., or 4.3-ft., above mean sea level. The barrage commands an area of 197,500 hectares, or nearly 488,000 acres, about three-quarters of which will probably be irrigated eventually. The duty is 700 hectares per mecusec, or nearly 49 acres per cusec. The South Canal is intended to be widened, as may be necessary, to a width sufficient to give it a capacity of 212 mecusecs, or 7,488 cusecs, while the Northern Canal will probably have a capacity of 29 mecusecs, or 1,024 cusecs. The region includes tidal districts, not irrigable, but capable of being improved by drainage. For its ultimate capacity of 212 mecusecs, the South Canal would require a bed width of 70 m., or 230-ft.; at present the bed width is 40 m., or 13-ft., the depth 3.0 m., or 9.84-ft., and the capacity 100 mecusecs, or 3,532 cusecs. In the length of 32 kiloms. to the main fork, its bed width is reduced to a final dimension of 29 m., and its capacity to nearly 77 mecusecs, or 2,720 cusecs. The southern branch is nearly 35 kiloms. in length, and the south-western branch a little longer. The main canal and both branches are important traffic routes. The southern branch has a bed width reducing from 15 m. to 10 m., a depth of 3.6 m., or 11.8-ft., and a capacity of 39.55 mecusecs, or 1,397 cusecs. The south-western or western branch has a bed width reducing from 17 m. to 10 m., at the far end of the Rangsit area, depth 3.75 m., or 12.3-ft., capacity 37.36 mecusecs, or 1,169 cusecs. The canals have been designed from Kennedy's tables for non-silting velocities, with bed slopes of 1 in 13,000 and 1 in 14,000.

At the site of the barrage near Saraburi, the river Prasak has a surface width of about 100 m., or 328-ft., and about half that bed width. The barrage—see Figs. 1 and 2—has six openings of 12.5 m., or 41-ft., with Stoney sluice gates of the Ashford type, built at Renfrew by Messrs. Glenfield and Kennedy. These are 7.5 m., or 24-ft. 7-in., in height above river bed and weigh 41 tons apiece. The whole structure is 23 m., or 75-ft., high from river bed. A continuous slab of reinforced concrete, deepened under the piers, forms the foundation, which is protected by three rows of sheet piling extending across the bed of the river. It is surfaced with large blocks of a hard crystalline limestone, which has also been used for the piers. The head regulator—a view of which is given at the head of this article—has eight gates of the same design, as those of the barrage, spans 4.2 m., or 13.8-ft. A river lock has been provided for the craft plying on this waterway, and it is so designed that a clear passage is left through it during floods. The lift is 7.5 m., or 24.6-ft., and the height of the lower pair of gates 9 m., or 29.5-ft.

These works absorbed 42,500 cubic metres of rubble stone, 19,000 cubic metres of stone aggregate, 18,000 cubic metres of sand, 7,250 tons of cement, 170 tons of steel in the foundations, and 716 tons in the gates and superstructure. The cost of the barrage was Tcs. 2,592,667, or £235,700 of the navigation lock, Tcs. 381,902, or £34,717; of the main and branch canals, distribution, drainage, and protective works, Tcs. 11,958,160, or £1,087,105; establishment and other charges bringing the total to Tcs. 15,780,768, or £1,434,615.

The area irrigated exceeded 300,000 rai in 1923-24, and in 1925-26 was 450,000 rai, or 177,750 acres.

The Subhan Project

This is one of the schemes recommended by Sir Thomas Ward for the canalisation of the existing channel of the Makamdhaio and Subhan river. A considerable amount of work has been done. Full supply level has been fixed at 13 m., or 42.6-ft., above m.s.l. At the canal head the bed level will be at 8.60 m. (28.2-ft.) above m.s.l., the bed slope will be 1 in 16.666, the bed width 30 m., or 98.4-ft., full supply depth 7.2 m. (23.6-ft.), the estimated discharge being 270 mecusecs, or 9,536 cusecs. Work is proceeding upstream from the third, or lowest, regulator, since the river thus headed up will immediately improve navigation and assist the transport of materials for the works upstream. Work on No. 3 regulator was begun in 1923, and completed in September, 1925. It has two Stoney gates of 12.5 m., or 41-ft. span, and 6 m., or 19.7-ft., height. The sill is at 0.20 m. above mean sea level, and heading up to 6.0 m. above m.s.l. is provided for. More than £100,000 has been spent out of an estimated total somewhat exceeding £1,000,000.

The cost per square metre of gate was Tcs. 3,215, or £292—£27 2s. 7d. per square foot—which compares not unfavorably with that of the gates of the Prasak barrage, Tcs. 2,872, or £261—£24 5s. 6d. per square foot—the latter having six openings. The lock is 60 m., or 96.6-ft., in length, and its cost per cubic metre of capacity was Tcs. 26, or nearly 36s. 2d. per cubic yard.

The Jiengrak and Bang Hia Drainage Project

This is a work of drainage for the Rangsit area, largely consisting of the widening and deepening of existing channels, both natural and artificial. A flood embankment is provided to prevent excessive flooding by a hill torrent, the Nakorn Nayak, the regulation of which is the subject of a scheme at present in abeyance. Regulators are so placed that they will assist drainage, or in dry seasons admit a supply of water from the Nakorn Nayak, should it be in flood.

The work involves nearly 240,000 cubic metres of excavation, much of the work being done by dragline excavators. Nearly a third of the total estimate of Tcs. 7,778,760 (£707,160) had been spent by the end of March, 1926.

Full details of the working of dragline excavators in Siam have been furnished by Mr. Percy H. Lee, A.M. Inst. C.E., Director of the Royal Irrigation Department of Siam, in a Government of India Paper, 1921.

Before citing data from the report now under consideration, a few outstanding items in Mr. Lee's report may be noted. The plant included excavators having buckets of $2\frac{1}{2}$ and $3\frac{1}{2}$ cubic yard capacity, and booms of 85-ft. and 100-ft. The most economical method of working was to employ the excavators in pairs, about 200-ft. apart, each excavating half the width. The rate of progress was from 50-ft. to 150-ft. in twenty-four hours. The fuel used was oil, or, when working far from navigable waterways, wood was employed. The machines, which are self-propelling, could, when the soil was dry, be made to crawl across country at a speed of about 3 miles per week, the rails and sleepers being shifted by coolies. Full costs data are given in Mr. Lee's paper, but the following are taken from the Administrative Report of the Department. On the Prasak works costs per cubic metre for four machines ranged, respectively, in ticals, 0.273 to 0.440, 0.220 to 0.830, 0.321 to 0.580, 0.290 to 0.454, the averages being 0.374, 0.420, 0.490, and 0.423. In pence per cubic yard, these are:—6.2, 7.0, 8.1, 7.0 nearly. On other works the costs in four successive years, 1922-23 to 1925-26, averaged:—Ticals, 0.40, 0.36, 0.23 and 0.24, or in pence per cubic yard, 6.6, 6.0, 3.8, and 4.0. An analysis of costs, 1924-25, furnishes the following, in ticals per month:—Labour, 447.1; lubricating oil, 47.55; fuel oil, 45.42; workshop charges, 44.6; transport charges, 33.0; materials other than oils, 26.07; total, Tcs. 643.64, or £58.51, the cost per cubic metre being nearly 0.08, or nearly 1.33d. per cubic yard.

These working costs may be compared with the total costs already noted. Other examples include one giving the same result and one in which the cost per cubic metre is 0.107, or 1.77d. per cubic yard.

Dredgers

The first purchase, of two bucket chain dredgers, was made in 1907. These had an output of 28,000 cubic metres per month when

working two shifts, or eighteen hours per day. They dredge to a maximum depth of 4.75 m., or 15.6-ft., below water level, and will distribute the spoil through 40 m. of pipe to a height of 5 m. above water level. In all, there were seven bucket dredgers in the charges of the Irrigation Department on revenue account and in service during the period under review, in maintaining the waterways. The rates per cubic metre in different years range from Tcs. 0.12 to Tcs. 0.31, with an exception 0.34. A representative figure, nearly the average, is Tcs. 0.19, or 3.15d. per cubic yard. A suction dredger, purchased by instalments, cost Tcs. 332,388, or nearly £30,000. The items are significant:—Cost of dredger, Tcs. 209,166; freight, insurance and duty, Tcs. 78,523; erection, Tcs. 28,101; spare parts, Tcs. 16,597.

Table of Fees Concerning the Registration of Trademarks in Trademark Bureau of Nationalist Government

Translated by N. F. Allman

Registration Fees:

1. For exclusive use of any trademark, or extension of period of such exclusive use, \$40.00 each.
2. Assignment of exclusive use of trademarks shall be of two classes:
 - (a) Assignment by succession \$10 each.
 - (b) Voluntary assignments, or any other kinds, \$20 each.
3. Registration of alteration or cancellation of any trademark, \$2.00 each.

One half of the above amount shall be payable in respect of associated trademarks.

In accordance with Article 11 of the Registration Regulations issued by National Trademark Bureau, 30% of said fees shall be paid in addition as educational fee.

Application Fees concerning the registration of Trademarks according to the trademark law or any other laws concerning same.

1. Application for registration of any trademark, \$5.00 each.
2. Application for change of applicant's name, \$5.00 each.
3. Application for duplicate certificate of registration, \$3.00 each.
4. Application for extension of exclusive use of any trademark, \$5.00 each.
5. Application for extension after expiration of exclusive use of any trademark, \$10.00 each.
6. Application for protest in respect of any trademark that has been approved or published, \$15.00 each.
7. Application for examination or re-examination, \$15.00 each.
8. Application for a duplicate decision of approval, \$3.00 each.
9. Application for re-examination, \$5.00 each.
10. Application for issue of any documents of evidence, \$1.00 each.

One half of the amount named in articles 1, 2, and 4 shall be paid in respect of any associated trademarks.

All trademarks which have been registered in the Trademark Bureau, Peking, shall be re-registered with the National Trademark Bureau of the Nationalist Government. The fees shall be as follows:

Fee for re-registration	.. .. .	\$10.00 each
Additional educational fee	.. .. .	\$ 3.00 ..
Application fee	.. .. .	\$ 5.00 ..

One half of said amount shall be paid in respect of associated trademarks.

Standardization in Electrical Switchgear

Its Difficulties and Possibilities

H. Trencham, M.I.C.E., M.I.E.E.

THE business of manufacturing and selling electrical switchgear is one which presents a great deal of difficulty, because of the immense variety in its applications and the consequent large number of types and sizes of apparatus which must be handled. Added to this there is what may seem to be an inherent lack of standardization both as to requirement and product, notwithstanding that a keen appreciation exists of the handicap which lack of standardization imposes on price, on engineering, and on the business of salesmanship.

Very much stress has been laid by both commercial and manufacturing interests on these difficulties over a period of probably some twenty years, with little progress towards reduction in the diversity of apparatus types, and whilst this state of things is known and deplored, its continued existence demonstrates that there have been factors entering into the business, which have presented obstacles too great to be overcome by the mere will to standardize.

The subject of standardization is closely related to that of cheap production and the modern manufacturing methods whereby cheap production is achieved. It is not without interest therefore to examine the situation to try to determine what hope there may be of future betterment, and to ascertain what are the hindrances which may have operated to produce past difficulties.

The most readily comprehensible difficulties have been those arising from the rapid extension of the industry, not as to volume of apparatus produced because volume alone would have brought about standardization most quickly but extension into new fields of application, the exploitation of new ideas, and the steady increase in transmission voltages and power concentrations.

We have further the spectacle of a continual sequence of new developments put into production often with little reduction in the output of products which have remained almost unchanged for many years, notwithstanding that great effort has been made to incorporate in the new developments all the essential qualities of the old designs and to meet, with the new article, the requirements previously filled by the old. This is the natural result of an attempt on the part of established users to standardize in their systems, and to maintain uniform types of apparatus in service so as to economise in spares and to use to the best advantage the experience of their staffs in handling known gear.

It should not be supposed that there has been no attempt made to check unnecessary diversity of practice. The British Engineering Standards Association has interested itself closely in the subject and the British Electrical and Allied Manufacturers' Association has also done a great deal of good work. All the principal manufacturers are represented on a Switchgear Technical Committee of the latter body which is engaged continually in an endeavor to unify practice and in drafting suggested lines of possible standardization, which are eventually referred to the British Engineering Standards Association.

Something like forty specifications on Switching devices and allied apparatus have been issued or are in course of preparation by the British Engineering Standard Association. Their number alone shows clearly the large field of detail which has to be covered as well as indicating that the need for standardization is recognized.

A specification on complete switchboards (No. 162 not yet issued) was commenced in 1919 and work on it has been carried on

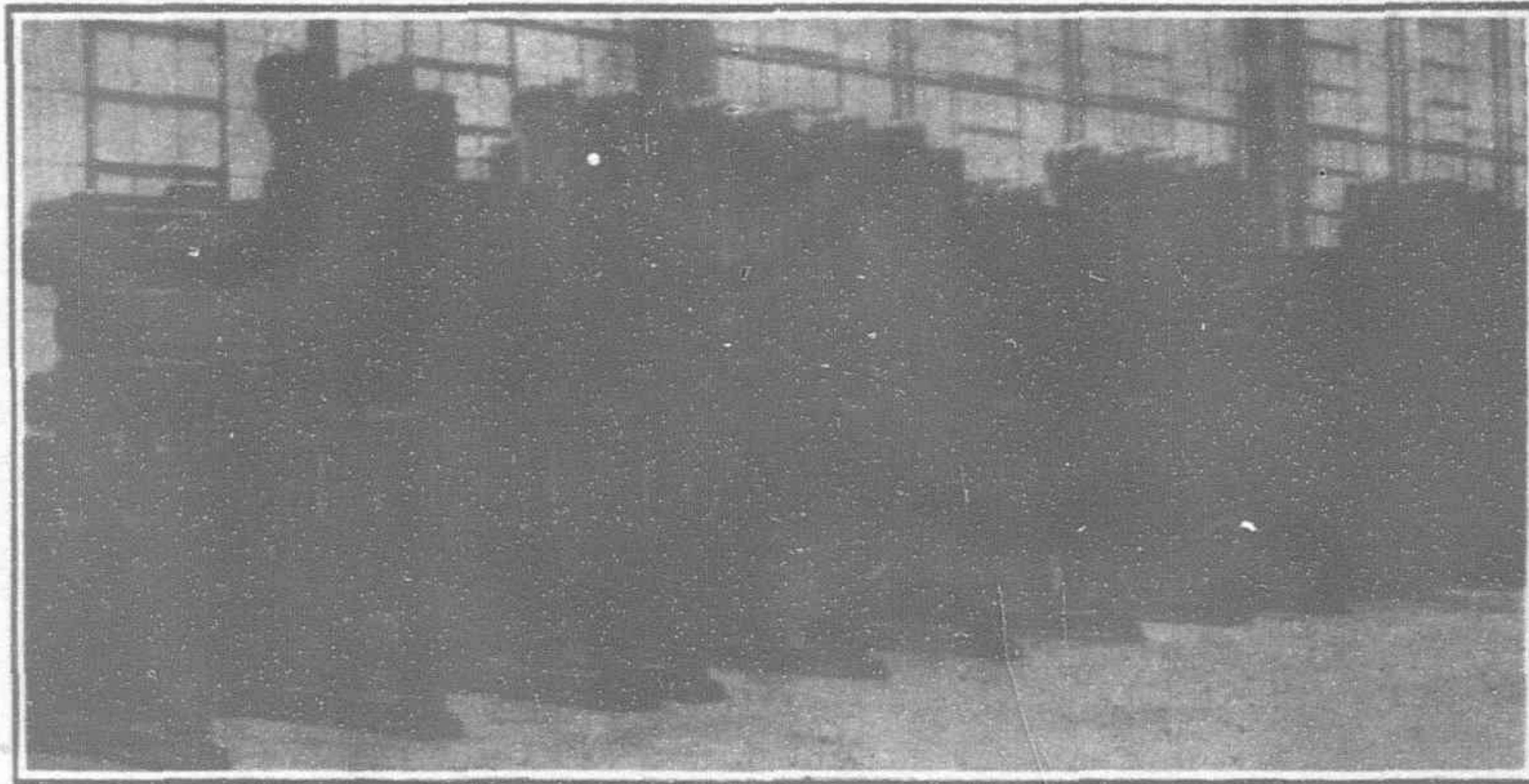
continuously ever since then. The very large number of types and forms of switchgear made the task a very difficult one indeed, but notwithstanding these difficulties the latest draft of the specification has been brought to a form of comparative simplicity.

The bulk of the specification has been presented in general clauses applicable to all switchboards. Nine clauses only are special to low and medium voltage work and only four clauses are special to high and extra high voltage work, two referring to metal-clad and two to cellular switchgear.

Such an agreement on the requirements of switchboards which are, in practice, represented by so many diverse types is bound to be of the very highest utility in the course of time.

The progress towards standardization may be discerned in the course which has been followed by the British Switchgear industry during the last two decades or thereabouts.

The bulk of the British Manufacturers effort is, and has been, expended on large contracts whereunder he provides the design of the whole switchgear, its manufacture, installation and testing, and frequently, supervised operation for a certain guaranteed period. This condition has produced certain interesting results. As regards staff, there is necessary, in addition to the usual staff of engineers and draughtsmen engaged on apparatus design, a staff whose work comprises the study of external conditions and the application of the correct switchgear apparatus to meet various system requirements, the study of problems involved in the layout of such switchgear and in the design



Equipment Suitable for 33,000 Volts

of the housing or structure to mount it.

Furthermore, as building work is frequently supplied by the customer or a separate building contractor, there is necessitated a close co-operation with the architect of the buildings. Where the apparatus is of large size or complicated character the amount of co-ordination work may be very large and costly and thus occupy much valuable time.

These conditions may be held to constitute a strong case for the procedure which has often been followed in other countries where the operating company makes a study of its own conditions, buys apparatus to meet the requirements, and assembles and houses it in a structure and buildings designed by its own engineers. This practice is more truly, however, a phase of expediency which has a distinct limit to its successful application, as it is productive of widely divergent demands for apparatus, following different trains of thought developed along lines of local application; and the general tendency is away from standardization rather than towards it both in general practice and in the manufacture of detail apparatus.

It is not surprising that the conditions cited as applying in England brought about the development of the switchgear unit idea. Its first appearance was in the form of truck type switchgear for power distribution service, and, what is known as, industrial switchgear for factory, ship-yard, and mill applications at about the same time. The idea was further developed and took the form of the now well-known metal clad switchgear designs for substation duty at 6,600 and 11,000 volts, later extending to higher voltages and to power station application.

The underlying motive has been consistent throughout the whole of the stages in development and is founded on the principles of standardization and of true economy. The aim has been to make of switchgear, a manufactured product whose units might be

built in quantity in a factory and readily assembled together into a self-contained and self-supporting entity for any given duty and requiring a minimum of labor and skill in installation.

The ideal housing of such an equipment or set of equipments is a plain floor, four plain walls and a roof; presenting at the same time the simplest building problem and minimum of co-ordination between different classes of workers.

The successful exploitation of the ideas was only a matter of time as they had for their foundation a right appreciation of sound economical principles; and no better confirmation of this is required than is evident from the rapidly growing acceptance of the principles in other countries. Indulgence in technical controversy merely clouds the main issue, as the special difficulties which have been met in the course of development have, just as in any other line of endeavor, found their appropriate solutions. The results which will appear in different countries may vary from those achieved in England, just as there are differences between designs produced by individual manufacturers in England, but the acceptance of the main principles involved is undoubted, and tendency towards standardization of demand and consequent lower costs which will follow their acceptance is equally sure. No better guarantee of this is required than is afforded by a study of the success of Truck Type switchgear. This apparatus however, finding its limitation arising from space considerations in the large high voltage equipments of modern stations gives place to a type of gear wherein the use of insulating materials other than air allows of smaller clearances than standard truck structures will permit, thus bringing within reach factory built unit switchgear appropriate to the largest modern undertakings.

It is suggested that the wide diversity in demand evident in the past has been largely responsible for the high cost of switchgear, and that no real hope of standardization can be entertained whilst this diversity persists. Agreement between the demands of different engineers or undertakings is impossible without some incentive to that end, and such an incentive appeared with the advent of metal clad switchgear of unit design. Its adoption will enable more time and study to be given to the real problems of system arrangement and will at the same time cheapen the equipment costs, this apparatus may be held therefore to represent a real step towards standardization and it holds also the hope of continued progress in that direction.

The main ideas involved in metal clad switchgear construction are already known to most engineers interested in switchgear; but there are many points in the details of design which are worth noting. Most of those to which attention will be directed here are suggested by experience, a representing those aspects most likely to give satisfactory service to engineers responsible for installing and operating electric power equipments.

1. All types of equipment must be readily catered for *e.g.* generator, transformer, feeder, reactor etc. using standard units, which constitute interchangeable manufacturing components, quickly and cheaply obtainable.

2. The relationship of these units must be flexible as regards assemble, so that deviations from standard requirements can be made with minimum trouble and expense, by merely rearranging standard parts.

3. Any unit should be removable from a completed equipment without displacing other units so that extensions, modifications, or possible repairs can be carried out with minimum delay and expense.

4. The chambers must be suitably designed and disposed to accommodate instrument transformers and protective transformers for any normal requirements. Potential transformer fuses should be safely renewable without making the main circuit to which they are connected, dead.

5. The oil circuit breaker, whilst freely removable for isolation when required, must, when in engagement with the circuit, be firmly anchored so that it is secure against jumping when it is called upon to open a heavy fault.

6. Current transformers should be rendered easily available for testing, both as to the primary as well as the secondary side; and they should be removable without disturbance to the permanent installation, *e.g.* they should not be tied up to the cable sealing box. Changes of ratio necessitated by system growth and consequent loading can then be made most conveniently.

7. Operation of oil circuit breakers must be possible by direct or remote mechanical control, by electrical solenoid, or by A.C. motor mechanism suited for automatic control.

8. There must be suitable provision for Instruments, Meters, and Relays, in such a position that they can be conveniently observed and inspected when the control of the oil circuit breaker is by direct manual operation.

9. Any secondary connections between the oil circuit breaker movable unit and the fixed portion of the gear must be carried through in such a way that there is no danger of bad contacts jeopardizing the operation of trip coils or relays. The run of these connections must be simple and easily traced.

10. Any form of interlock consistent with normal operation of standard apparatus must be effectively and cheaply carried out.

11. As in Truck Type Switchgear, the drawout portion of the apparatus should contain as far as possible, all the parts which require maintenance attention, so that this may be given conveniently and independantly of the live bus bars and of the circuit connections.

In addition to the foregoing, there are certain general questions arising on which some comment will be of interest.

A question which has frequently risen is whether compound is a reliable medium for insulation purposes in switchgear. Compound in itself is an exceedingly good insulator and its suitability or otherwise is therefore more a question of application than one of intrinsic value. If compound filled chambers are arranged so that the filling can be carried out freely and completely through large holes and the design be such that progress of the filling may be readily inspected, there is no reason why difficulty should arise. If chambers be filled with oil, they can be more readily emptied and attention given to apparatus contained therein, but in well built switchgear the need for such accessibility is almost non-existent. There is also a greater fire risk in connection with the use of oil and leakage, if it should develop, is likely to be very much more rapid.

The insulation of metal clad gear, particularly that of the spout or socket connections, is one which has involved a great deal of study because of its inherent technical difficulties. This has provoked discussions as to the relative suitability of porcelain and bakelised paper. The technical design using paper becomes somewhat simplified but where the difficulties can be satisfactorily met with a design using porcelain insulators, these are to be preferred because of their non-hygroscopic composition and the better and more durable surface which they possess.

The oil circuit breaker used in compound filled switchgear does not necessarily present any problems in design peculiar to this application, but it should be noted that the desire to economize space generally may result in an oil circuit breaker having too small air space above the oil to satisfactorily cushion the shock caused by the rapid liberation of a large volume of gas when the breaker opens under fault conditions. This point is worthy of careful consideration when a selection of compound filled switchgear is being made.

Orders for the Far East include a number of 6,600 volt, equipments in Rangoon with breakers having a breaking capacity of 150,000 K.V.A., equipments for two substations in Hongkong for the same voltage but of smaller capacity *viz.* 100,000 K.V.A. and a large installation for a step down transformer station in Tokyo employing 22,000 volts and 3,450 volts wherein three different sizes of apparatus are utilized.

Electric Power in Ssuningkai

The Electric Light Co., Ssuningkai, according to the *Manchuria Daily News*, has recently opened a day-time service of power in compliance with the wishes of the local industrialists. Those who used a petroleum engine are adopting electric power as motive power. The S.M.R. Co. District Agency there, for prevention of fire, has laid down the following restrictions:

In the commercial quarter, only motors of less than 10 horse power are permissible, while a petroleum or a kindred engine, being accompanied with fire risk, is not permitted.

In the produce yard district, variety stores being treated as the commercial quarter, a motor of less than 30 horse power is permissible on the premises of a bean mill or a rice cleaning mill actuated by steam or petroleum. But in one lot of land leased by the S.M.R. Co., more than one motor over 30 horse power is denied permission.

Engineering Notes

D. M. Kable Returns to China.—Mr. D. M. Kable will be on his sixth trip to China during the month of April, Mr. Kable well known in the engineering world as consulting, mechanical and technical engineer. His company has installed a number of industrial plants in Japan, China, Indo-China and Singapore. He will bring with him many new and interesting methods applicable to Chinese industry and in particular the metal industry in general, and up-to-date information as to the manufacture, packing and wrapping of food products and cosmetic preparations.

D. M. Kable & Company will re-establish their Shanghai office in the near future and will have a resident engineer specializing in ventilation, refrigeration, hydraulics, etc., who will be well qualified to give practical advice in the handling of industrial and engineering problems.

Messrs. Edgar Allen & Co., Ltd.—According to advices from Messrs. Edgar Allen & Co. Ltd., Sheffield, tests made by the Sheffield Testing Works prove that each of their three high speed steels made by the new process is conspicuously more efficient than the same steel made by the old process.

"Sulzer" Boilers for Japan.—The Kobe Office of Sulzer Brothers booked an important order for a Garbe boiler plant for the Karafuto Kogyo K.K. Estori Mill, comprising:—

3 Double-Bank Sulzer Upright Water-tube Boilers, each of 4,300 sq. ft. heating surface and for 28½ atm. (405 lb.) working pressure, with superheaters, travelling stokers, boiler-feed pumps, etc.

This order is all the more gratifying as the competition met with was again exceptionally severe, both from Japanese and other firms. The Karafuto Kogyo already possesses two Sulzer boiler plants, one at Karafuto of—

4 Sulzer Upright Water-tube Boilers, each of 3,000 sq.-ft. heating surface, working pressure 17½ atm. (250 lb.) and the other at Sakamoto of—

3 Sulzer Upright Water-tube Boilers, each of 2,420 sq. ft. heating surface, working pressure 14 atm. (200 lb.).

Edgar Allen's Stag Major.—The very rapid progress made in the design and strength of modern machine tools has rendered it imperative that the metallurgist should provide a material capable of withstanding the very severe work to which high speed steel tools are submitted.

For a number of years there has been a determined struggle for supremacy between the designers of machine tools and the steel maker, and until recently the machine tool makers were slightly ahead of the metallurgist. Edgar Allen & Co., Ltd., had, however, been carrying out researches with the object of providing a steel that would task the lathe to its utmost limits, and thereby obtain maximum efficiency from the most modern machine tools in existence. After many careful investigations and numerous experiments they designed a steel which gave the desired results.

In order to produce this superior steel it was found necessary to make further additions of very scarce and expensive alloying elements, which necessitate special methods of production and very careful preparation. The increased percentages of the important elements referred to made desirable the employment of special melting apparatus in order to obtain satisfactory results. It was imperative that the heavy elements contained should permeate the molten metal and create a homogeneous mass. This was only rendered possible as a result of Edgar Allen & Co., Ltd.'s introducing into their works a new high frequency electric furnace, which has created a great sensation amongst steel makers, and is the first furnace of its kind in the world producing high quality tool-steel on a commercial basis. The molten mass of high grade pure base metal is kept constantly on the move owing to the complex electrical field in which the materials exist. This has the very important advantage of maintaining complete homogeneity throughout the mass.

Kanegafuchi Boseki K. K.—(Kanegafuchi Spinning Co., Ltd) Naruno Mill. In connection with the plan to install an additional 20,000 spindles at the Naruno Mill in Osaka, this company has concluded a power supply contract with the Ujigawa Denki K.K. The rate is reported to be much lower than the generating cost at the plant. In view of this advantage, the spinning company has decided to abolish its own steam power plant, now generating 1,650 kw. and instead to buy a total of 3,000 kw. hydro-electric power from Ujigawa, including 700 kw. already contracted for and 500 kw. recently contracted for extension purposes.

Machinery required for changing receiving equipment will be ordered from the Mitsubishi Denki K. K. (Mitsubishi Electric Machinery Co., Ltd.). It is also reported that the power contract was competed for as usual, between Nippon Denryoku K.K. and Ujigawa Denki K.K., resulting in the victory of the latter.

Shanghai-Nanking Railway Revenue in 1927.—The following shows the monthly revenue in dollars of Shanghai-Nanking Railway during the year of 1927 as compared with that of 1926:—

Month		Passenger		Freight		Other Items	Monthly Total
		Number	Fares	Tons	Revenue		
January	1927	997,134	571,104	82,759	136,872	8,094	716,070
"	1926	936,023	533,009	142,121	205,309	15,020	753,338
February	1927	693,026	465,271	36,412	61,317	7,623	534,211
"	1926	849,548	481,562	92,723	164,371	12,857	658,790
March	1927	291,592	336,140	4,804	7,878	5,520	349,538
"	1926	1,046,659	561,707	138,288	215,823	11,494	789,024
April	1927	434,477	400,147	9,907	54,674	6,542	461,363
"	1926	1,076,235	486,352	147,320	247,833	12,625	746,810
May	1927	739,824	552,308	35,120	48,507	7,555	608,370
"	1926	1,020,825	545,624	144,806	237,300	13,009	795,933
June	1927	823,113	521,958	104,301	183,781	8,374	714,113
"	1926	919,614	468,819	157,654	286,001	11,056	765,876
July	1927	841,079	516,061	106,338	178,393	11,244	705,698
"	1926	890,361	491,444	183,194	291,393	11,115	793,952
August	1927	668,001	524,536	50,576	87,573	8,463	620,572
"	1926	863,784	491,589	166,060	311,318	9,834	812,741
Sept.	1927	668,281	544,189	36,670	52,718	8,296	605,203
"	1926	986,141	595,069	133,488	210,666	8,917	814,652
October	1927	830,262	646,055	58,615	103,485	8,832	758,372
"	1926	975,674	581,987	119,190	192,905	9,784	784,676
Nov.	1927	830,782	708,573	86,212	132,183	10,857	851,613
"	1926	887,686	517,945	72,501	115,323	8,324	641,592
Dec.	1927	834,469	830,607	85,713	140,533	11,705	982,845
"	1926	857,424	513,726	56,614	90,959	8,762	613,447
Total	1927	8,652,040	6,616,949	697,427	1,187,914	103,105	7,907,968
"	1926	11,309,974	6,268,833	1,533,959	2,569,201	132,797	8,970,831

Shanghai-Ningpo Railway Revenue in 1927.—The following shows the monthly revenue in dollars of the Shanghai Ningpo Railway during the year of 1927 as compared with that of 1926:—

Month		Passenger		Freight		Other Items	Monthly Total
		Number	Fares	Tons	Revenue		
January	1927	297,223	363,705	29,030	43,077	3,711	410,493
"	1926	450,791	254,103	84,385	119,756	5,479	379,338
February	1927	167,277	195,631	6,693	11,081	3,567	210,279
"	1926	425,261	243,331	43,096	61,121	5,400	309,852
March	1927	178,157	117,857	8,026	10,810	3,458	132,125
"	1926	578,109	318,312	89,008	130,137	5,940	454,389
April	1927	263,894	312,303	17,610	24,486	4,552	341,341
"	1926	621,741	426,012	88,891	143,197	5,940	575,149
May	1927	400,277	307,034	46,724	77,741	4,418	389,193
"	1926	532,910	348,504	94,556	146,934	6,375	501,813
June	1927	399,280	381,718	60,987	181,153	4,482	567,353
"	1926	432,829	265,974	89,178	169,385	7,090	442,449
July	1927	387,986	295,559	72,980	140,217	3,410	439,186
"	1926	429,464	270,983	86,561	143,521	8,376	422,880
August	1927	352,337	345,857	44,858	81,952	3,036	430,845
"	1926	422,055	273,300	65,753	102,157	5,640	381,097
Sept.	1927	421,799	295,364	53,055	93,254	2,965	391,583
"	1926	478,671	307,098	70,808	115,092	7,120	429,310
October	1927	392,075	417,765	58,625	100,582	5,217	523,564
"	1926	395,236	248,003	61,674	92,832	4,299	345,134
Nov.	1927	377,662	294,960	67,232	115,947	3,967	414,874
"	1926	403,919	204,136	54,492	88,195	3,460	295,791
Dec.	1927	345,951	294,773	65,613	115,653	4,050	414,476
"	1926	313,324	306,435	38,300	58,544	3,074	368,053
Total	1927	3,983,918	3,622,526	531,433	995,953	46,833	4,655,312
"	1926	5,484,310	3,466,191	866,702	1,370,781	68,193	4,905,255

New Roads in Kansu.—In a telegram to the Government Council, the Kansu Provincial Government reported that the construction of a motor road connecting Lanchow and Si-an, provincial capitals of Kansu and Shensi respectively, have been completed. The road will be open to traffic by the end of this month—(*Kuo Min News Agency*).

Nisshin Boseki to Move Mill and add Spindles.—On account of the replanning of the City of Kyoto into definite residence and factory districts, many manufacturing plants will be required to move their businesses to other parts of the city or outside the city limits. The Nisshin Boseki has decided to move its 20,000 spindle Kyoto Mill to Hamamatsu, and at the same time will add 10,000 spindles to the equipment. The work is to be completed, first part, by the end of the year.

Electric Power Development at Leeds.—Leeds Corporation Electricity Committee has recommended the City Council to accept the tender of the British Thomson-Houston Co., Ltd, Rugby, for the two double cylinder super efficient 25,000 kw. 3,000 r.p.m. turbo-alternators required for the new Power Station which is to be erected at Kirstall. The turbo-alternators are rated at 35,714 kva. 10500/11500 volts, three-phase, 50-cycles and the turbines are designed for a working steam pressure of 450 lb. per sq. in. gauge at 750 degrees F. temperature. The total value of the contract which was secured in the face of very strong continental competition is £176,504.

Aichi Prefecture Interest Plan Another Large Railway Company.—Local interests in Aichi Prefecture are planning a new electric railway between Toyokawa and Gamagori, in Hoi County. The company will connect with the recently established system (planned) of the Sanshin Tetsudo, but this company will complete construction before Sanshin.

This new line will improve transportation facilities to the raw silk centers in Nagano, as such material as coal can be landed at Gamagori and shipped from there to Okaya by way of Tatsuno on the Central Line of the Government Railways.

The Mikawa Tetsudo has almost completed an extension to Gamagori, and is reported to be interested in the formation of this new company, especially as the managing-director of Mikawa is also the managing-director of Ina Denki Tetsudo which is connected with the new Sanshin railway. The Aichi Denki Tetsudo also has plans for the construction of a harbor branch line at Gamagori, so there will be plenty of competition for the rights to construct any new lines in this district.

Mukden-Hailungcheng Branch Extension to Linkiang.—The *Manchuria Daily News* does not give a very encouraging account of the prospects of the proposed Nanchamuhulo-Hsingking-Tunghwa-Linkiang branch of the Mukden-Hailungcheng Railway, and points out that, once the line reaches the mountainous region, the small amount of produce for export will render it economically unworkable.

The section from Nanchamuhulo to Hsingking is now being surveyed, but the people of Tunghwa and Linkiang prefectures, with the support of certain officials, are petitioning the authorities to extend the branch into the region in which they are interested.

This proposed extension will start at Hsingking for Tunghwa, over 320 Chinese *li* away. Then 20 Chinese *li* east of Tunghwa it will have to negotiate the mountainous region from Tungchangtai and Sanhotzu, necessitating the construction of an extensive tunnel. If the line should pass through Sankoshu, Sanlusiling Pass will have to be coped with, and if Tzukou is to be passed, there is Tangtuling Pass to be surmounted. Each mountain is 530 metres above the sea level and will have to be pierced through. About Yingkoku, a few tunnels will have to be excavated. At all events, tremendous engineering difficulty confronts the construction of this branch line. From Tunghwa to Linkiang, the destination, the distance is 300 Chinese *li* from Tunghwa to Toutaokou runs in a level country, but as the line proceeds eastwards to near Tungminglatzu and Lintzutao, mountains rise in rows one behind another, and another tunnel will have to pierce Tiengling Pass. The Hsingking-Tunghwa section will tax engineering ingenuity to overcome still greater difficulties.

Chinese Engineering and Mining Company.—The figures in this report show that conditions in this company's territory improved considerably in the last twelve months. The restriction in sales of coal due to the limited facilities for transportation on the Pekin-Mukden Railway continued, but in the second half of the year, with additional locomotives and wagons, sales of coal expanded substantially. The total sales by the Kailan Mining Administration for the year amounted to 3,790,353 tons, compared with 2,898,107 tons, an increase of over 892,000 tons. The gross profit of the Kailan Administration, under which the mines of this company and another are carried on as a joint undertaking amounted to \$9,504,716, against \$5,336,409. After providing £52,560 for interest and £24,000 for redemption in respect of the Kailan 6 per cent. bonds, and reserving \$1,425,707, against \$800,461, for depreciation, the proportion which goes to the Chili Government is \$314,260, and the net profit is \$6,004,093, against \$2,839,290, of which this company takes \$3,322,938, as compared with \$1,663,361. After crediting other income and deducting general expenses, including £36,658 for exchange (against £1,066), and £84,132 for income tax (against £93,920), the net profit is £230,831, which compares thus:

Year to	Net profit.	Dividend tax free.	Carry forward.	Kailan coal sales.
June 30.	£	£ %	£	Tons.
1927 ...	230,831	210,000 15	256,448	3,790,353
1926 ...	141,688	140,000 10	241,109	2,898,107
1925 ...	198,714	140,000 10	241,234	2,861,708
1924 ...	473,093†	280,000 20	186,406	4,284,160

*Including £22,479 repayment of E.P.D. †Including £100,959 repayment of E.P.D.

Coal sales for the four months to October amounted to 1,452,000 tons, as compared with 1,031,000 tons for the corresponding period of 1926. Sales are only limited by the transportation facilities, and arrangements have been made for the provision of additional locomotives and 300 additional wagons. The financial position is very sound, and the outlook is improving. There are £864,000 6 per cent. Kailan bonds outstanding, which at 93 yield 6½ per cent. Capital is £1,400,000, wholly in £1 shares, which at 3, including the final dividend of 10 per cent., yield £5 3s. per cent., tax free, equal to nearly 6½ per cent., subject to tax. Meeting, December 7.

Sukawa Denryoku Plans.—The Sukawa Denryoku K. K. has been planning to construct two power stations for some time but the actual work has been held up pending the selection of the sites. It is reported that the location of the stations has now been decided upon and the work will be undertaken in the near future.

The first of the new stations is to be known as Matsuya, capacity 21,733 kw, water to be taken from the main stream of the Agatsuma River over a waterway 30,000 feet long to carry 850 cubic feet of water a second, which will be added to by 230 cubic feet a second from the discharge of the Nakagawa Station. The waterway will empty into a large reservoir with a capacity of six million cubic feet. Penstocks will be built from the reservoir to the power station 3,600 feet long. The effective head of the station will be 378 feet, discharge directly into the Agatsuma River.

Water for the other station planned, Nakagawa, will be drawn from the Su River, a tributary of the Agatsuma, over a 30,000 foot waterway. The water quantity at the station will be 230 cubic feet a second under an effective head of 800 feet.

The reservoir which is to be constructed in connection with these two stations will also later be utilized by the Hara Machi No. 1 station of 20,000 kw. and the Koidzumi Station of 13,000 kw, and by the Kanai Station of 11,000 kw (in operation) and the Hakoshima Station 10,000 kw (planned) of the Sukawa's connection, the Tokyo Denryoku K. K.

The Nakagawa Station will be constructed entirely by the Sukawa Denryoku itself. The contract for the construction of the Matsuya station has been let to Tobishima Gumi. The estimated cost of construction at Matsuya is Y.3,000,000 for civil engineering work, Y.1,500,000 for electrical equipment and about Y.3,000,000 for railway construction necessary, interest, etc., the total of Y.7,500,000 also includes the cost of some primary sub-station equipment. Equipment will include two hydraulic turbines of 15,900 h.p. each, two generators of 12,500 kw. and four 16,000 kva. transformer units.

The construction of the Matsuya Station is to be completed before the end of September 1929 and Nakagawa Station is to be finished before the end of 1931.

Yahagi Suiryoku K.K.—Yahagi Water Power Co., Ltd. This company has six hydro-electric power stations with a total capacity of 21,800 k.w. It also purchases 5,000 k.w. from Daido Denryoku. It supplies power to Tokyo Denryoku Toho Denryoku, Aichi Denki Tetsudo and the Okazaki Dento K.K. in large units. These contracts having been concluded before the present surplus of power equipment in the Nagoya district are extremely favorable to the company.

It has recently completed construction of the Shima Power Station, which has a capacity of 1,600 k.w. It is reported that costs of construction of this plant did not exceed Y.500 a k.w. Through the completion of this plant the company's peak is well taken care of.

Before the end of this year the Nagoya Steam Power Station will be in operation. This will have a capacity of 14,000 k.w., and when completed it will enable Yahagi to cancel its contract with Daido Denryoku. Construction of this station is estimated to cost Y.2,000,000. Yahagi has rights of power supply in Nagoya City for anything over 100 h.p.

Its power supply contracts are for a long term of years, but revision is due in the near future. The principal buyer is Toho Denryoku, which purchases 13,000 k.w. This contract will come to an end for 6,500 k.w. in February, 1929, and the balance by 1930.

At the present price of power Toho Denryoku pays 1.9 sen per k.w., load factor 75 per cent. If the contract is continued the price will certainly be reduced.

A merger was recently completed with the Nanshin Denryoku K.K., which had a capital of Y.1,000,000 of which Y.250,000 was paid in. This company owned water rights of 2,400 k.w. on the Achi River a branch of the Tenryu River, but construction work has not been started. For the merger 10 shares of Nanshin have been exchanged for 9 shares of Yahagi, and the Nanshin had to call up Y.250,000 of uncalled capital. After the merger the capital of Yahagi was lifted Y.900,000, an increase of Y. 450,000 in its paid-in capital.

Hankai Denki Tetsudo K.K.—Osaka-Sakai Electric Railway Co., Ltd. This company started operation of its first line October 1, 1927. Business results have, however, not been very encouraging. Passenger revenue during October amounted to only Y.7,400, or about Y.240 a day, and averaged less than Y.50 a mile. During this month, however, charges were subject to a discount of 50 per cent.

In November, income averaged Y.430 a day for the first ten days of the month, but decreased gradually, until the present average is not more than Y.250 to Y.260 a day.

The company in its prospectus estimated an income of Y.270 per mile per day, with which it was going to pay a dividend of 10 per cent. per annum. Actual results are not one-sixth of the estimates.

The construction program is not yet completed: the part in operation covers only 5 miles from Ashiwara Station, Osaka to Sampo Mura, the remaining one mile from Sampo Mura to Sakai City still being under construction.

The cost of building the five miles now in operation has been Y.3,400,000 while the original estimate for the whole 6 miles was only Y.3,500,000. It will therefore be some time before this last mile will be completed.

The company has plans for constructing 5.5 miles of line between Hamadera and Sumiyoshi Parks, for which the Nankai Railway also has plans.

The present *Capitalization of the Company* is Y.6,325,000, of which Y.4,100,000 or Y.4,200,000 is estimated as the cost of the electric railway lines, the balance for real estate development schemes so necessary for all Japanese electric railway lines.

It owns about 75,000 tsubo along its right of way, of which 40,000 tsubo were taken over from the Kuroa Real Estate Co., recently absorbed. This land is located on the Sumiyoshi River, where reclamation works must be carried out before it can be made suitable for residential land. This plot is carried at Y16.50 a tsubo, and when reclamation works are carried out the cost will rise to Y.22 to Y.23 a tsubo. For some time this work has been going on, and 36,000 tsubo are already reclaimed. The average selling price per tsubo is estimated at Y.25 to Y.26. Profit from such sales, if any, will probably be included in the profit and loss account for the term to close March 31, 1928, in order to balance loss from the operation of the railway lines.

Under these circumstances this company does not seem to be a brilliant success, and it will be some time yet to come before it will be declaring dividends from operating profits.

Recent Railway Licenses Granted.—*Hyotsu Shokumin Tetsudo K.K.* (Hyotsu Colonial Railway Company, Ltd.) from Kumaushi Mura, Kawakami County, Kushiro Province to Hyotsu Mura, Hyotsu County, Nemuro Province, Hokkaido. Length 29 miles 40 chains, estimated cost of construction Y.1,500,000.

Yubari Tetsudo K.K. (Yubari Railway Co., Ltd.) from Ebetsu Mura, Sapporo County to Kakuda Mura, Yubari County in Ishikari Province, Hokkaido. Length 12 miles 28 chains, cost of construction to be Y.1,450,000.

Chichibu Tetsudo K.K. (Chichibu Railway Co., Ltd.). An extension of lines already licensed within the village of Otaki, Chichibu County, Saitama Prefecture. Length 1 mile 10 chains, cost Y.550,000. Also a license to construct a cable railway line of 1 mile 40 chains from Shirakawa Mura to Otaki Mura, cost Y.600,000.

Teshio Tetsudo K.K. (Teshio Railway Co., Ltd.) from Kawajiri Machi to Koheiyaku Mura, Rumoe County, Teshio Province, Hokkaido. Length 15 miles 40 chains, cost Y.1,200,000.

The "Export World" (founded 1898)
is the monthly journal devoted to the
expansion of International Trade.

Write for a free specimen copy.

Bouverie House, Fleet Street.

London, England

PUBLISHED ANNUALLY

THE LONDON DIRECTORY

with Provincial and Foreign Sections and Trade
Headings in Five Languages

enables traders to communicate direct with

MANUFACTURERS AND DEALERS

in London and in the Provincial Towns and Industrial Centres of the United Kingdom and Ireland, the Continent of Europe, Africa, America, Asia, Australasia, etc. The names, addresses and other details are classified under more than 3,000 trade headings, including

EXPORT MERCHANTS

with detailed particulars of the Goods shipped and the Colonial and Foreign Markets supplied;

STEAMSHIP LINES

arranged under the Ports to which they sail, and indicating the approximate Sailings.

One-inch BUSINESS CARDS of Firms desiring to extend their connections or Trade Cards of

DEALERS SEEKING AGENCIES

can be printed at a cost of £1.10s. 0d. for each trade heading under which they are inserted. Larger advertisements at £16 per page.

The directory is invaluable to everyone interested in overseas commerce, and a copy will be sent by parcel post for £2, net cash with order.

THE LONDON DIRECTORY CO., LTD.

25 Abchurch Lane, London, E.C. 4, England

BUSINESS ESTABLISHED IN 1814.

Electric Railway Planned.—Planned by Sojinkan Sugimura and others between Tokyo and Abiko, in Chiba Prefecture. The line will start from Nippori and terminate at Abiko, Kashiwa Machi by way of Matsudo, Takagi and other stations.

To Build Wharf at Tangku.—The Tung Hing Co. a Japanese shipping concern, and Carlowitz & Co. are jointly planning the construction of a wharf at Tangku for loading and discharging cargo. Other Japanese and foreign shipping companies are interested in the scheme.

Mitsubishi Shipbuilding Company Completes Locomotives.—The Mitsubishi Shipbuilding Company completed the three 40 ton electric locomotives ordered by the Osaka Tetsudo K. K. by the end of last month. The company is now working on two 100 ton electric locomotives for the Government Railways, to be put in service over the electrified section of the main Tokaido Line.

Signalling Material for Malay States.—The Westinghouse Brake & Saxby Signal Co., Ltd. have been instructed by the Crown Agents for the Colonies to supply for use on the Railways of the Federated Malay States, a large quantity of signalling materials, amongst which are included many types of fittings, such as cranks, compensators, lock bar clips, etc., fitted with Westinghouse anti-friction roller bearings.

Sukawa Denryoku K.K.—Matsutani Power Station (Subsidiary of Tokyo Denryoku).—Preparations for the construction of the Matsutani Hydro-Electric Power Station, to be located at Iwashima Mura, Agatsuma Gun, Gunma Prefecture, are now well under way and the work has been let to Tobishima Gumi and Tetsudo Kogyo Goshi Kaisha.

Water for this station is to be drawn from the main stream of the Agatsuma River and from its tributary the Su River: the rated capacity will be 21,733 k.w. Orders for machinery have not been decided upon. According to the original program, construction will be completed before the end of September, 1929. Power generated will be sold to Tokyo Dento K.K.

Electric Railways Licensed.—Tokyo Narishiba Denki Tetsudo K.K. promoted by Sadayoshi Kotsuka and 35 others, line from Higashi Hirai Cho, Fukagawa-ku, Tokyo to Yasukura Machi Inba County, Chiba Prefecture. Length 28 miles 45 chains, cost Y.8,500,000.

Nisshin Boseki K.K.—In addition to the Hamamatsu No. 1 Mill now under construction, the company is planning to construct another mill at Gamagori Machi, Hoe Gun, Aichi Prefecture, with some 50,000 spindles. The company expects to start the construction after the Hamamatsu Mill is completed.

Western Road and Equipment Exposition.—An exposition of road making and building construction equipment is to be held in Los Angeles, March 7-11, 1928. More than G.\$3,000,000 worth of building and road equipment will be exhibited. While the exposition has been planned primarily to interest the western third of the United States, it will attract National attention. Road building projects for 1928 in the states comprising the western third of the United States run to a total of G.\$180,000,000.

Besides the display of machinery exhibits, actual field demonstrations of the work performed by various shovels, cranes, graders, back-fillers, trenchers, crawler tractors and other types of machinery will be featured.

A welcome is extended to all officials or others in China interested in road development to visit this exhibit.

With more than 400,000 miles of motor highways in the United States and with automobiles in excess of 20,000,000, roads are exceedingly important in the lives of the American people. This exhibit, it is expected, will be of great educational value and officials, contractors and builders from all the countries of the Pacific are invited to attend. Those interested should get into touch with the Los Angeles Chamber of Commerce or with Mr. Arthur E. Welch, Secretary, Western Construction Equipment Distributors, Inc., 807 Union League Building, Los Angeles, California. More detailed descriptive material is on file at the office of the American Commercial Attaché, 3 Canton Road, Shanghai.

SULZER

BROTHERS

SHANGHAI ENGINEERING OFFICE

4 AVENUE EDWARD VII.

Telegraphic Address
"SULZEBROS" SHANGHAI
Telephone Central 6512

蘇爾壽工程事務所
上海愛多亞路四號
本公司常備目錄供給各界
垂詢工程事務亦屬誠酬答



Unitlow Steam Engines, Air and Gas Compressors, Upright Watertube Boilers, Cornish and Lancashire Boilers, High and Low Lift Centrifugal Pumps, Fans and Ventilators for all purposes, Fire Engines, Stationary and Marine Diesel Engines, Airless Injection Diesel Engines, ICE-MAKING AND REFRIGERATING PLANTS, Mang Gears and Mang Planing Machines.

Sulzer Diesel Engine Plant
at the
Compagnie Française
de Tramways et
d'Eclairage Electriques de Shanghai

2 × 1,500 B.H.P. = 3,000 B.H.P.
2 × 3,600 B.H.P. = 7,200 B.H.P.
1 × 4,800 B.H.P. = 4,800 B.H.P.

Total ... 15,000 B.H.P.

WINTERTHUR. SWITZERLAND.